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AND
(*THE AMERICAN MEDICAL WEEKLY.*)

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ORIGINAL ABSTRACTS.

Mullein Pith in Epilepsy.—Dr. N. J. Sullivan, Canyonville, Oregon (*Druggist*, July, 1883), states that a decoction of mullein pith in combination with the usual doses of potassium bromide markedly increases its effects in epilepsy.

Maternal Impressions.—Dr. T. C. Poole, Mansfield, Texas (*Medical Brief*, June, 1883), reports the following case : On April 17th, his sow gave birth to eight fully developed pigs. Having by accident been present, noticed the ninth as it was expelled ; from its peculiar shape and color, curiosity was aroused, and on examination it was found to have the appearance of an elephant. It was destitute of hair, having a proboscis, with dependent ears, two eyes behind upper two thirds of proboscis closely approximated, yet distinct, an abnormal superior maxillary with two or three large teeth, with a long, thin upper lip, with shape and color of an elephant. The sow's gestation lasts three months and twenty days. The impressions were made within five days after conception. On Christmas Day the male was with her ; on the 29th of December a menagerie exhibited at our town, had an elephant staked about three hundred yards from lot where the sow was, and in full view. The case is, however, one of atavism, as the pig descended from the proboscidæ, and this was a reversion to its early ancestors. While there is no essential improbability in the maternal impression theory, the explanation of the case as an atavism is much more probable.

Massage in Croup.—Dr. E. Freund (*Deutsche Medizinische Wochenschrift*, No. 44, 1882) states that Bela Weiss's method of massage in croup is to be recommended. This is performed as follows : The throat alone is to be manipulated by placing three fingers on the larynx and moving gently at first, with greater force afterward, to the maxillary angle. The manipulation lasts from five to six minutes, and is repeated every two or three hours. The effect is noticed at once in the diminished pain on swallowing. In cases where the manipulations are instituted at the onset of the disease, violent diphtheritic symptoms rarely occur ; if such symptoms are already present, they are at once alleviated. After each manipulation mucous masses are expectorated, the hoarseness gives way, and euphoria generally begins.

Eucalyptus disguises Iodoform.—Dr. S. S. E. Earp, Indianapolis, Indiana (*Cincinnati Lancet and Clinic*, November 4th, 1882), states that he first prescribed the oil of eucalyptus for its therapeutical action only, and accidentally discovered that it disguises the disgusting odor of the drug. It was first suggested to him by an essay, in which Lister announced that as an antiseptic dressing, the following was a valuable formula : Paraffine wax, one and one third parts ; oil of eucalyptus, one part ; vaseline, two and two third parts. He has been successful in nearly all instances where he used iodoform locally, especially in case of syphilitic ulcers of the tongue and tonsils and indolent ulcers in general. In patients suffering from chancroid he first applies an escharotic followed by a presription containing oil of eucalyptus and iodoform, and in nearly all instances has had signal success. He prefers the following combination : ℞ Pulv. iodoform, ʒ i.; oil eucalypti, ʒ i.; bismuthi subnit, ℥ ss.; zinci oxidi, ung. petrolei, āā ℥ i.; M. ft. unguentum. Sig. Apply locally to parts three or four times per day. He has substituted acidi tannici for the oxide of zinc, but it extracts the albumen from the tissues so thoroughly that hardened cakes are formed which are not only disagreeable, but retard the healing process.

Nitrogen Inhalations.—Dr. E. Berg (*Centralblatt für die Medicinischen Wissenchaften*) states that tute a contra-indication to the medicine in large doses or for a long time except under urgent circumstances. (4) That where large and continuous doses are absolutely necessary an occasional intermission of the administration is desirable, if possible, to diminish the risks to the ears.

Hot Water Retrojection in Gonorrhœa is highly recommended by Dr. H. Holbrook Curtis (*Medical Record*, April 21st, 1883). An ordinary wooden arm-chair is half-mooned in the front of the seat to admit a tall cuspidor. A pulley is rigged on the ceiling by means of which a tin pail, with a lamp beneath, is elevated. A rubber tube, provided with a stop-cock and connection leads from the pail, and at any time may be fitted to a No. 8 English flexible catheter. When the water reaches a temperature of 120°, the catheter is vaselined and introduced to within an inch of the prostate, connected with the tubing, and the pail so elevated that the flow is brisk. The lamp will keep the temperature slowly increasing, and it, when the water becomes uncomfortably hot, may be extinguished. After some time a syringeful of the following injection is thrown in, and the catheter withdrawn: ℞. Acidi tannici; iodoformi, āā. ℈ij; glycerinæ, ℥j; aquæ, ℥iij. This should be repeated twice daily. Internally compressed tablets of five grains of bicarbonate of soda, ten daily, are used. As much as ten quarts of water have been passed from behind forward in this way. From a careful study of forty cases, Dr. Curtis claims that this treatment will shorten the duration of the disease by two weeks. Chordee and pain in urinating do not occur, and stricture is improbable.

Syphilis in the Ninth Century.—Between the years A.D. 806 and 810 (*British Medical Journal*), an emperor of Japan commanded his court physicians, Abemanas and Idzumo Kirosada, to collect in one volume all extant records of native medicine and surgery. A manuscript copy of this work, for centuries forgotten, although the facts of its origin were recorded in Japanese history, was found in 1827 by a priest, in a provincial Buddhist temple. Dr. Scheube, of Leipzig, has recently examined this work, and, in an article published in a recent number of Virchow's *Archiv*, has shown its undoubted authenticity and its high value from a purely scientific point of view. It was written long before Chinese ideas had penetrated into Japan and influenced native practitioners. The most interesting passages are descriptions of local and general affections, which clearly prove that syphilis, and several allied disorders, were well known to the ancient Japanese. Chancroid and phagedenic chancre are clearly described, as well as a "swelling on the penis, of the size of a millet-seed," followed by eruptions, feverishness, pains in the bones and head, blindness, swelling of the testicles, and other very familiar symptoms. These were observed to continue for many years. The passages of this work, called the Daidorui Thiu-ho, which relate to the treatment of these symptoms, have not yet been translated into English. Herbs alone appear to have been used, and without much success; mercurial treatment was introduced at a comparatively recent date, from Europe. The ancient Japanese surgeons do not appear to have recognized the venereal origin of the disease, although they recognized the secondary reresults from it. This disposes of the theory that syphilis originated in America.

ORIGINAL ARTICLES.

A Remarkable and Successful Case of Complete Traumatic Tetanus.[*]

By J. P. Thomas, M.D., Ex-senior Vice-President Kentucky State Society; Ex-Senior Vice-President of Tri-State Society, Indiana, Illinois, and Kentucky; present President of "The McDowell Medical Society."

Mr. President and Fellows: Tetanus, in whatever form and from whatever cause, is so invariably fatal that it seems to me every successful case should be reported, and especially is this the case in the variety known as traumatic. By such report we may reasonably hope that the therapy and peculiar management—if any—used in its conduct to a successful termination, may result in a better therapeusis for the future, not, however, in the too common spirit of *post hoc ergo propter hoc*, but only that there *may be* some points suggested or developed by the history of the case that *might* result in the establishment of not only better therapeutics, but a better pathology for a disease that has for ages resisted any and all treatment as yet tested.

In a recent letter from an able and experienced confrere, he says: "I have notes of sixteen cases of traumatic tetanus treated and observed by me during fourteen years," and adds, "in my hands not a single case has ever recovered, nor have I ever seen a single successful case." In a lifetime I have fortunately only seen ten cases beside the one here reported, and all of them died.

---

[*] Read before McDowell Medical Society, at Henderson, Ky.

This, we know, is the sad experience of the profession throughout the world. This like many other diseases in the nosological list is still among the approbria of the profession.

It is not, however, gentlemen, that I even hope to add a mite to the elucidation of its pathology or treatment, that I encroach upon your valuable time in reporting the following case, and that somewhat in detail, but simply to perform a duty.

It is to be hoped, however, that there is a better pathology for tetanus in the near future ; and as it (for one at least) cannot be etiologically classed among the so-called *germ diseases*, of course a more successful treatment must follow.

In my humble opinion, the return, as it were, of the medical mind to the older " land marks," as yet theories, and that were only outlined and foreshadowed by such minds as Marshall Hall, and Tyler Smith on the other side, and our own H. F. Campbell and a few others on this side of the Atlantic, in regard to the importance of the rôle played by the nervous system in the development of almost every disease to which flesh is heir, is the only hope of a correct pathology for tetanus.

The profession must be led to a better understanding, or at least, a better appreciation of the reflex neuroses in general.

The pathology, though unsettled as to the exact part performed by the two systems of nerves in its production and continuance, yet I believe it is generally recognized as a neurosis, wholly reflex in character ; and it is not necessarily a neuritis, extending from the peripheral nerve along the main trunk to the spinal accessories, and thence through the cord to the pons and medulla oblongata, or that there is always an inflammation of the medulla spinalis or its membranes, but that there may be sometimes both conditions present, which latter, I think, was a complication in this case. Hence the blister employed in its treatment. It is evident from a careful study of the whole phenomena in any case of tetanus, either traumatic or idiopathic, that the origin is simply *irritation*, commencing in the first with the peripheral or wounded nerve, and in the latter with the causa stenosa wherever found, or, as Dr. C. H. Ohr, of Cumberland, Md., in a very able and lucid paper on " Genito Reflex Neuroses in the Female," published in the *Journal of Obsterics and Diseases of Children*, Vol. XVI., Nos. 1 and 2, 1883, prefers to call a generator of reflex irritation, stegnosis after Dunglison. Dr. Ohr defines a stegnosis as " any constriction of nervous filaments resulting from congestion or inflammation causing plastic deposits, fatty degeneration, or cicatrices, which are capable of interfering with their physiological action." To this I would add any and all irritation, mental or physical, which is capable of reflecting, even sympathetically, its own irritation, either by the toxæmic contact upon the cerebro-spinal centres of the blood (when poisoned), or as functional—the familiar example of the stegnosis of dyspepsia as reflected to the heart, and often the liver and lungs, by means of that wonderful motor-excitor of organic life in both the thoracic and abdominal viscera—the pneumogastric nerve.

Dr. Ohr's paper is one of peculiar value, as bearing upon this subject of the reflexes, because it is based upon actual post-mortem demonstration, as proof of the reflex theory of disease ; and did the limits of this paper permit, it would be instructive to give the history of a case reported by the doctor in which the post-mortem revealed the cause of all the symptoms exhibited during the course of the case as reflex. I shall have occasion, however, to refer to this excellent contribution in a paper in course of preparation on " Reflex Neuroses in General."

Tetanus is essentially a motor neurosis, but without elaboration, (if this embraces the embodied pathogenesis as far as our present knowledge of the cause of the terrible disturbance in the muscular system which we witness in a case of tetanus, extends), the first indication—after the crude or exciting cause is removed—is to remove, if possible, the irritable condition of the spinal cord.

1st. Remove the missile or agent that produced the wound.

2d. Abolish, if possible, if not lessen, the peripheral irritation.

3d. Quiet the general nervous excitement, and relieve the intense pain.

4th. Relax the muscular rigidity.

The second indication has often been treated by amputation of the limb or resection of the injured nerve, neither of which *a priori* can meet the indications, but are only additional irritation.

Anodynes and narcotics have been suggested and employed locally by filling the wound with opium, morphia, belladonna, etc., and when the wound was small the deep hypodermic injection of morphia at or near the seat of the mischief.

The actual cautery has been applied with the view of deadening the lacerated nerves, but only seemed to add to the hyperæsthesia.

The local treatment of traumatic tetanus, however, has never received the attention that its importance demands.

On November 20th, 1882, I was called to see Clara White, aged six years, in an adjoining county, some ten miles distant.

On arriving, I found the child in a tetanic convulsion. These paroxysms succeeded each other much more rapidly than in any case I had ever seen, and were more violent and prolonged.

The intermissions were not over forty minutes, and the spasms lasted from two to three minutes, or perhaps longer, and left no relaxation of the extreme rigidity of the entire muscular system, which gave to the cutaneous surface the hardness of wood to the touch.

The opisthotonos was so complete that the occiput and lower point of sacrum only touched the bed; and was also continuous in the intermissions of the distressing convulsions.

The entire frame was so rigid that the little patient could have been raised to a standing position by placing the hand behind the head.

In thirty years of practice, I had fortunately seen but ten cases of traumatic tetanus ; all of them died ; but this, the eleventh case, was in all respects the most violent, completely developed, and yet the most prolonged, and in the youngest subject.

Contrary to the general rule, the arms were as much involved as the legs ; the shoulders so elevated by the contractions of the sterno-cleido-mastoid and other muscles of the neck, as to cause their points to mount to the ears of the little sufferer ; in other words, gave the child the appearance of being destitute of a neck.

The trunk and lower limbs remained in tonic spasm ; in fact, though the paroxysms were to some extent clonic, yet the rigidity was so constant and general that it was hardly perceptible.

The tendo Achillis retracted permanently to such an extent as to keep the dorsal surface of both feet nearly in line with the spine of the tibia ; and no ordinary amount of force could have flexed the feet.

From the frequency of the convulsive paroxysms, both from education and previous observation, I was led to give a prognosis of almost immediate death ; as in general all agree that the longer the interval between the paroxysms the more favorable the prognosis, and *vice versa.*

The history of the attack, as given by the mother, was, briefly, that on November 12th, the girl was on horse-back, behind an elder sister, that while approaching the house across a field she fell from the horse's back, striking on the point of the right shoulder, and in some way doubled the right foot under her body as she rolled on the ground.

When carried to the house it was found that a "seasoned sassafras stick" had penetrated the plantar arch of the right foot, about one inch in depth.

A physician was called on account of a supposed dislocation of right shoulder joint, and to extract the stick ; but before his arrival or soon after, the jaws became locked, and some stiffness of the muscles of the neck complained of by the patient.

The doctor, after extracting the stick, placed the patient on small doses of opium, judging from some small brown powders exhibited by the mother.

After visiting the case up to the 16th (four days), he declined further attendance, on the score that all treatment was useless, that death was inevitable, as the patient continued to grow worse.

So far as I could learn from the mother, he had confined his treatment to about one eighth grain doses of pulverized opium every three hours, with several doses of castor oil and sulphate of magnesia as evacuents of the bowels, which they had failed to accomplish, as I was informed there had been no discharge from the bowels since the accident. This statement, I think, was correct, from their continued torpidity for three days after I saw the case.

It required three large doses of podophylin and calomel, aided by several enemas of soap and water, occupying at least two days before the extreme constipation was "overcome." We know that constipation is usually characteristic, but the bowels in this case were extremely torpid.

Treatment : First, chloroform was administered to complete anæsthesia, for the purpose of enlarging the wound, which was found superficially healed.

A fresh incision gave exit to about two teaspoonfuls of pus.

After exploring the wound with the finger, to be certain no portion of the stick remained, "iodinized chloral phenol" was poured into the "pus cavity" at incision, and absorbent cotton saturated with the same packed into the wound and confined by bandage.

The patient was kept under the chloroform until the supposed luxation of humerus could be examined, but none existed, and while the jaws were still relaxed, the first dose of the above cathartic was placed upon the tongue, when she was allowed to sleep the chloroform off and to suck through the "clenched" teeth sufficient water to enable her to swallow the powder.

A nearly saturated solution of equal quantities of chloral hydrate and potassic bromide was prepared, and a tablespoonful of this mixture ordered every two hours, day and night, until sleep was induced, and to be renewed on each awakening. I should have stated that though this was the fifth day since the attack, yet she had slept only at long intervals, and but a few minutes at a time. Her pulse was 150, her tongue dry and coated, deglutition very difficult, respiration extremely labored, and her temperature was evidently very high, but not having a thermometer with me, was not registered to-day.

There was marked strabismus—eyes drawn to the right.

The mother was taught to administer chloroform in small quantities, after the manner of Dr. Wm. Martin Coates ; and to do so instantly on the recurrence of each convulsion, by dropping from twenty to thirty drops on a handkerchief kept ready stuffed in a small glass tumbler ; and to repeat until spasm subsided—or rather she was instructed to keep the child sufficiently under chloroform to keep the spasms in check or modified.

21st. No report.

22d. The trismus less, able to take liquid food, appetite voracious from the first, bowels not moved, spasms not so frequent, but little sleep, notwithstanding the large doses of bromide and chloral. General rigidity same. Temperature registered 106°—notably—no perspiration, nor had there been any action of the skin, which is unusual. Tongue still dry and coated. No thirst, also unusual. Strabismus same. Pulse 145. Opisthotonus as before described, with some pleurosthotonos added. Painted blistering liquid whole length of spinal column, repeated the cathartic powder, ordered the hypnotic mixture increased to one and one half tablespoonfuls every two hours, as before. Directed father to report next day, progress or death.

23d. Father reports to-day considerable improvement ; he says spasms much lighter and at longer intervals, thinks above an hour apart ; jaws entirely unlocked ; can eat, drink, and swallow with much less effort ; since blister drew "is not so hot or so crooked." I am persuaded the vesicant reduced the temperature. Directed him to continue chloral compound, but to reduce to a single spoonful, or return to the original dose, and give only every three hours, unless spasms increased in frequency.

24th. Visited patient to-day ; improvement perceptible, except on right side ; there was only slight rigidity on left side, but persistent from head to foot on right. There was rash over entire body—bromism. Temperature 101. This reduction, I am forced to believe, was the result of the blister to the spine.

Opisthotonos not so marked. Strabismus same. Spasms only about every three hours, and comparatively slight. Bowels freely opened, same tendency to diarrhœa. Treatment continued as directed for the 23d.

25th and 26th. No report.

27th. Father came for more medicine, and reports still further improvement ; good use of left arm and leg ; foot flexible upon ankle, no spasms in last twelve hours, but right side much the same ; head drawn much more to the right, nearly against point of shoulder ; strabismus same, right heel still as much retracted. Stiffness in right arm and leg undiminished, no return of spasms. The chloroform had been left off when the spasms ceased. The chloral mixture was continued in half usual doses at longer intervals ; patient sleeps well for an hour or two at a time.

29th. Visited Clara White to-day ; improvement decided since last visit. Pulse still 100 ; temperature only 99, which was reduced soon after vesication of spine, and has never risen since. Her tongue cleaning. Perfect use of left side ; bowels sufficiently active ; desire for food still almost impossible to satisfy ; appetite morbid from first. Only slight contraction of muscles of neck on right side ; strabismus comparatively slight ; numerous crop of furuncles scattered over body, along site of blister ; boils very numerous and painful. Bromine rash over whole surface ; considerable emaciation and debility. From right shoulder down but little improvement in the still extreme muscular rigidity ; impossible for her to flex hip, knee, or ankle joint, and this shoulder still somewhat drawn upward. Hypnotics discontinued. Tr. chloride of iron to be given in full doses three times per day, and systematic massage with a stimulating liniment to entire right side.

Rhubarb and magnesia to keep bowels solvent, with full diet. No report until December 1st, when father reports she is gaining flesh, has the use of both arms, can flex thigh and knee, but still unable to flex ankle joint, and that the heel is retracted, and instep as hard and tense as at any time. Unable to stand on right foot from muscular debility. Appetite and digestion good. Ordered to continue tonics and massage, and place patient on crutches for exercise one hour morning and evening.

From this on she continued to improve, but did not recover flexibility in the right ankle and foot until the middle of January, 1883.

At this writing, February 20th, 1883, she is as active as any child of her age, and is in perfect health. The points of interest in this case are (1) her endurance of the convulsions, especially when their frequency and extreme violence are considered, for so long a time (over four days) without treatment; (2) the enormous doses of chloral and potassic bromide taken per day, and continued so long in one so young, without injury; (3) that during first four days after I saw her she was over half the time under the influence of chloroform, owing to the frequency of the paroxysms; (4) the duration of the disease in full activity from the 12th of November to 16th of January, inclusive; (5) the result—protracted rigidity or muscular contraction, amounting to temporary anchylosis of the joints; (6) the persistent strabismus, and, as far as my observation goes, the lateral thotonos of the head, which was a new feature to me, but I believe it has been reported as a feature in tetanus; (7) the good effects of systematic massage, which was plainly the principal factor not only in finally relaxing the chronically contracted muscles, but in restoring tone and development to them afterward, as the rubefacient used was only a skin lubricator; (8) the short time that elapsed before tetanus set up. I was induced to try the effects of large doses of chloral in this case, from a successful case of strychnia poisoning, treated alone with heroic doses of chloral hydrate, by my friend and former pupil, Dr. Andrew Sergeant, of Hopkinsville, Ky. His patient took what was supposed to be twenty grains of sulphate strychnia, and was a clear case of so-called essential tetanus. (Case since published in *Louisville Medical News.*) There are, of course, several points of dissimilarity in the tetanoid spasms, produced by strychnia and those produced by traumatism; but we know, or are so taught by experimental physiology, that strychnia spends its force upon the gray matter of the spinal cord, and excites reflex action upon the nervous system in general. Consequently, with no better pathology for tetanus than we at present possess, we think that controlling spasms and relaxing muscular contraction are the main indications in its treatment.

With our present therapeutical knowledge of the drugs belonging to this class, I believe that chloral and chloroform hold the first rank, and that chloral alone or aided by chloroform—because more readily administered—will accomplish this in a larger number of cases than by any other agents yet suggested; notwithstanding, I notice an abstract in the *Philadelphia Medical News* of February 10th, 1883, from *British Medical Journal*, of a case treated successfully with gelseminum sempervirens, by Dr. Marion Sims.

In 1879 I gave the gelseminum a fair and full trial, aided by the so-called specific pilocarpin, in a supposed case of hydrophobia without effect. I say supposed case, because the patient presented nearly all the symptoms of rabies, and yet there was no proof that she had ever been bitten by a rabid dog; but as it was a remarkable case, I propose to give you gentlemen (at some future time) a history of it from notes taken at the bedside. I have never used gelseminum in tetanus, but since reading such a good account of it, from such a source as Dr. Sims, will do so, should an opportunity occur. But as gelseminum produced none of its physiological effects in Dr. Sims's case, it is fair to infer that the result was not due to the drug used, but should be placed to the credit of the *vis medicatrix naturæ* or spontaneous recovery; and perhaps the same may be a correct criticism on my case.

The dose first given of twenty drops was too small to produce much effect in a case of fully developed tetanus, as I have often given that amount of the fluid extract every three hours in malarial fever, until its physiological effects were observed, and if not produced in a reasonable time, which is sometimes the case, owing to the inertness of the drug, have increased it to twenty-five and even forty drops, but carefully watched.

I opine that chloral and gelseminum would form an excellent combination in tetanus. The first to procure sleep and quiet reflex irritation, and not constipate the bowels as does opium; the gelseminum as a muscular relaxant, which, as Dr. Sims remarks, is a most powerful one, by reason of its paralyzing power over both sensation and motion. In my case it would have played a good part, by lowering the temperature and lessening the pulse, and thereby relieving the patient of the sequelæ of the blister; but the latter (if equally trustworthy) is certainly the safest, as the gelseminum only reduces the temperature at the risk of cardiac exhaustion.

It is a dangerous drug to be so generally prescribed as it is of late. I have ceased to employ it, only in some peculiar forms of periodic neuralgia.

25th. From experiment to-day I find that one ounce (graduated measure) of water will dissolve fifty grains each of chloral and potassic bromide before saturation is reached. On measurement with an ordinary tablespoon, the graduated ounce contains nearly four spoonfuls, allowing for nurses not quite filling the spoon each time. We have four doses to the ounce, or twelve and one-half grains of each salt to the dose, which in every twenty-four hours would be one hundred and fifty grains of each, and for first three days four hundred and fifty grains each; then for twenty-four hours two hundred and twenty-five grains each; then reduced to one hundred and fifty grains each per day for four days, six hundred grains each; then seventy-five grains each for three days, two hundred and twenty-five; making a total of fifteen hundred grains each, or three thousand grains of the combined salts in ten days, or three ounces and one drachm of each.

In a future case—to sum up the treatment I would pursue—first, freely open the wound by incision, then fill the cavity with the "iodinized chloral phenol," because it seems to me that an application possessed of moderate escharotic action, combined with the most powerful anæsthetic properties, would meet this indication more fully than either alone, by destroying the sensibility of the peripheral filaments of the wounded nerve by virtue of its caustic action, and by its anæsthetic powers quell the primary imitation both incident to the laceration and the cauterization.

From its apparent local effects in this case, I am inclined to think this formula possesses in better combination these properties than any other local application with which I am acquainted. In it we have the alterative and rapid absorbing powers of iodine, the well-known local anæsthetic properties of carbolic acid, together with its so-called antiseptic properties. In addition, we have, not only one of the best local anæsthetics and escharotics in chloral, but—in my hands—the most efficient antiseptic.

And in some cases of tetanus, especially those developing at long periods after the infliction of the wound, there must be a pyæmic condition of the organism. Second, I would control the paroxysms with as small an amount of chloroform as possible, but *control them.*

I would combine chloral and gelseminum, and administer them continuously, until their peculiar physiological effects were produced, and then maintain this effect within the bounds of safety, until the disease either terminated in recovery, or it was evident death was inevitable. In addition, I would intersperse the treatment with occasional *full doses* of quinine, which from its well-known power to lessen blood pressure, by depressing the "centric reflex excitability," and thus contracting the capillaries, and from its known action as a neurotic and nerve depressent, in large doses, which is the cause of its familiar, antipyretic power.

Dr. Robert Campbell gave over thirteen hundred grains in twenty-seven days in this disease, as far back as 1857. See report on "Therapeutic Value of Quinine in Obstetric Practice," Vol. V., Gynæcological Transactions, by Dr. Henry F. Campbell, Augusta, Ga.

SELECTIONS.

The Sterility of Women. Delivered at the Royal College of Physicians, February, 1883. By J. Matthews Duncan, M.D., L.L.D., etc., Physician-Accoucheur and Lecturer on Midwifery at St. Bartholomew's Hospital.

The regulation of desire and pleasure cannot be passed over without some remarks. Of the moral condition of those in whom these feelings are absent, or in whom they are in excess, I shall say nothing; and this silence is not because the moral condition is either unimportant or without influence on bodily health and on sterility, but because there is little that requires to be said. The healthy performance of the function of childbearing is surely connected with a well-regulated condition of desire and pleasure; and a well-regulated condition is not a reduction to a minimum or total absence, neither is it excess. I have already said that both desire and pleasure may be, and not rarely are, entirely absent; and it is my opinion, founded partly on the distinct testimony or concurrence of married women who are examples of the evil, that an education, injudiciously ascetic, as it may be called, sometimes produces this deficiency, which is a source of much disappointment and disaster in married life; and this view is corroborated by what is quite certain—namely, that by indulgence the feelings may be, and not rarely are, produced or increased. Writing on sterility, Ambrose Paré gives directions how to increase desire with a view to conception. Equally important is excess of desire and pleasure, and its reduction within moderate limits is equally advantageous. Religion, morals, bodily health, and childbearing all combine to exalt the value and importance of moderation, and to show the evils of absence or of excess. The influence of separation of married people, or of living without cohabitation for a long time—a period, say, of several months—is very widely recognized; and it is probably dependent on the increase of desire and pleasure in those who have little of either, and on the restoration of them in those who have been rendered nearly impotent by excess. This power of separation has appeared to me to be far more frequently operative in women who have had a family than in those who are absolutely sterile; and remarkable examples are not rare.

I have heard and read of, but have not personally witnessed, the disappearance of sterility after recovery from a fever; and this result is ascribed to the prolonged separation caused by the illness. The explanation may be correct, but it does not appear to be the natural one, for fevers are powerfully injurious to general health, and are known to disorder the ovarian and uterine functions.

I have already spoken of sterility as caused by marriage, especially in the young, and we know the sterility of prostitutes and the sterility of confined animals who couple freely or excessively; and it is probable that all these infertilities may have a bond of union in their being due to excessive desire and pleasure, or to excessive sexual indulgence, or to both combined.

In animals, especially in cows and mares, the semen is described as being not rarely expelled from the vagina soon after coitus; and this failure to retain is said to be, in some cases, owing to the animal not being duly in heat. Attempts are made to cause retention by dashing cold water over the buttocks and external parts. A like failure to retain the semen is frequently complained of by women, who describe it as coming away immediately after coitus, and without leaving the horizontal position, or only on getting up. In either case, women often attribute sterility to this failure of retention, and seek a cure of it with a view to fertility. Further, I have repeatedly been distinctly informed by careful women who habitually have this disagreeable imperfection, that conception has followed the rare occasions on which they have, as they noticed at the time, retained the semen. That this non-retention is often only partial is made probable by the occurrence of pregnancies in women who describe themselves as invariably suffering from it. It is rarely complained of except by the sterile, and, I believe, it is rare among the fertile. I have also a very strong impression, which I have no data to corroborate statistically, that it is especially common among those sterile women who have not sexual pleasure. I know nothing that modifies this condition, but believe that the production of sexual pleasure may have favorable influence. It probably depends on the failure of the timely dilatation of the cervix uteri, and, perhaps, of the uterine openings of the tubes so as to admit the semen, and on the failure of the simultaneous production of a condition of increased temporary negative abdominal pressure, or of that adspiratory action of the abdomen, which numerous old and recent authors invoke to explain the mechanism of fecundation; or it may depend on the failure of both of these conditions of ordinary successful coitus. Before leaving the subject, I must add that the facts as to this profluvium seminis are not of the highest degree of security; for, so far, at least, as I am concerned, they are not more than the statements of intelligent wives. They are probably quite accurate, as they are certainly given in good faith; but it is possible that mucous discharges or glandular secretion through the ducts of Cowper or Duverney may be, in some cases, mistaken for semen.

The immoderately great consumption of alcoholic drinks by women, without their necessarily ever reaching the stage of drunkenness, is so common and so potent a cause of disorder and disease, that it requires special mention. It is possible that much of the influence of this drinking might be justly ranked as part of mere overfeeding, whose injurious effects we have already spoken of; but this is far from certain. Indeed, while I am unable to give any strong evidence of the specially injurious action of alcohol, considered as an article of diet, I am much disposed to this view, being led to it by the good results in practice which I believe justly attributable to desisting from the use of it. The instances on which I rely are cases in which I have, by physical examination and other modes of inquiry, been unable to discover any evidence of disease of the internal genital organs. It would not make the conclusion more assured to enumerate cases which are not in number or other circumstances sufficient for a demonstration; but I may mention the leading features of one which could not but strike the most careless observer. This patient was brought to me to be cured of sterility, and, as some prolonged treatment was expected, she proposed to reside near me for a time. She was between twenty and thirty years of age, and had been several years living in fruitless marriage, absolute sterility. On two occasions, with at least two years of interval, I declared my inability to do anything against the sterility by local means, because I could discover no disorder or disease of the womb or its appendages. Having some suspicion of too liberal use of alcoholic drinks, I recommended teetotalism. After the lapse of a few years, the patient, now a happy mother, was again brought to me on account of some trifling complaint, and I was told as follows. Her drinking habits having increased, she was induced to go into seclusion with rigid surveillance, and in this she lived for about a year without any kind of alcoholic drink. When she came home again, she had lost much flesh, but was in good health, and she maintained what were now teetotal habits. She immediately became pregnant, and pregnancy recurred. Such cases are not singular, and induce a belief in a special hostility of alcoholic drinking to fertility.

But alcoholic drinking has, in addition to the general or constitutional disorder which it produces, well ascertained power, in certain cases, to induce disease of the internal genital organs. That which is most easily and distinctly made out is chronic ovaritis. It often comes and goes in the presence or absence of the cause. When it is present, sterility is not always a result, but frequently so, and its cure is often followed by the disappearance of the sterility.

We have, lastly, to consider the power of various local and chiefly uterine diseases and disorders, which have too much engrossed the attention of the profession hitherto. As I have already remarked, there can be no rational doubt that these local affections have a very limited scope of action; are, indeed, quite subordinate to the great causes of sterility affecting populations or classes. That they should have been the chief study of practitioners, as distinguished from statesmen or medical officers of health, is not only natural but in a sense just; for the practitioner cares not for the population or the class, but for the individual. If he is to do any good to the individual, it is by discovering something amiss, and providing a remedy, that he must work. And where is the practitioner first to look for a special cause of sterility if not in the essential organs of generation? Here he finds several diseases, only in recent years the subject of scientific investigation, so-called ulcerations, displacements, strictures, subinvolution, and others, upon which he easily founds a theory, generally a mechanical one, of the sterility which he at once proceeds to attempt to cure. If he fails to cure, that does not discourage him; for, in the present state of therapeutics, the reputation of remedies is founded more upon faith than upon evidence.

The wisest practitioner is he who, giving due weight to all items of knowledge acquired in regard to a disease or an unnatural condition, sets limits to his faith or his expectations, and, scrutinizes the evidence on which a treatment is based, and this all the more severely if a certain result of the treatment is gain to himself.

Spasmodic dysmenorrhœa is the most striking morbid condition connected with sterility. It has its seat in the womb or its neighborhood, and it is by most gynæcologists regarded as a purely local affection, having as its cause obstruction to the passage of the menstrual blood from the womb into the vagina by local or general congenital contraction of the canal of the cervix uteri. The nature of the affection, and the place it occupies in the theory of sterility, make me believe it to be a local affection in only a very limited sense—only in the same sense as irregular action of the heart or of the bronchi is a local affection. Its frequency, apart from numerous other considerations, is enough to make the pathologist hesitate to accept an alleged deformity of the cervix uteri as its cause. Besides, when the very rare alleged cause has really presented itself in rare cases of real pin-point os uteri, dysmenorrhœa has not been always present; in my practice, it has been always absent.

When evidence is led in favor of the obstruction theory of dysmenorrhœa, the argument from the success of treatment by enlargement of the passage is generally held to be irresistible, and its force to be, if that is possible, increased by the cure of sterility, which often accompanies the cure of the dysmenorrhœa, or, at least, follows the enlargement of the passage. The frequent success in curing or relieving dysmenorrhœa by this treatment, and the occasional success in curing sterility, are not matters of doubt. I have, indeed, no hesitation in saying that while many other pieces of advice are of great value in the treatment of the associated conditions of dysmenorrhœa and sterility, and in the treatment of them when not associated, this is the only medical interference that approaches in dignity to a cure. By this means, and chiefly by this alone, have cures such as concern us here been effected. In attestation of this utility we may cite the very great number of much vaunted means by which the object is effected, by very many kinds of knives, many dilators, many expanders, many scissors, by tents of various kinds, by bougies of various shapes, all of them, when put into use, producing enlargement of a part or of the whole of the passage through the cervix uteri.

For those who deny the existence of contraction it is not necessary to say a word further against the explanation of cure by mere enlargement. For them, that is certainly not the explanation. And it is easy to frame theories of the cure of dysmenorrhœa by enlargement of the passages, which may have the great superiority over that founded on obstruction, that they may also explain the cure of the associated sterility. Now, though the very simple cervical obstruction theory has been held sufficient to account for the sterility as well as for the dysmenorrhœa, it is plainly in this respect impotent.

While it is doubtful whether any menstrual blood is regularly passed through the internal extremities of the tubes into the uterus, it may justly be held sufficient by the dysmenorrhœal obstruction theorists to consider the passage of menses through the cervix alone. But they, of course, extend their theory of causation and cure to sterility, and here it is semen whose passage has to be studied, not menstrual fluid, and the cervix is not the only narrowed part of the semen's route, for it must pass not only through the cervix, but also through the Fallopian tubes. And if the seminal obstruction theorists find impediments in the cervix with its comparatively considerable dimensions, such as to allow their knives or scissors to work, what will they say of the closed capillary channel of the internal extremity of a tube? Their cure of sterility merely enlarges a passage where there was no apparent mechanical obstruction, and leaves untouched a passage where there is apparent entire impermeability.

That the obstruction theory (in all except its absolutely certain applications, as in imperforate hymen—cases to which we here make no reference) is excessively exaggerated, must be plain to every one who regards the almost innumerable cases of fecundation in extraordinary circumstances—cases without penetration; cases of impregnation in peculiar conditions, through the rectum or through the urethra; cases in advanced uterine cancer; cases in procidentia with great cervical hypertrophy; cases in extreme distortion by fibroids; and others. In this matter the appeal to comparative anatomy is most instructive, and the argument from it very evident. The apparent mechanical difficulties in the way of semen passing the cervix are, in some mammals, increased in an extreme and often a curious manner, without any consequent obstruction. To this matter Kehrer and Lott have paid particular attention, and have shown that the apparent mechanical difficulties affect the construction of the male organ in its relation to the female passage as well as the female passage itself.

To me it appears theoretically reasonable to connect dysmenorrhœa and sterility with rigidity of the cervix, and the opinion that it is so is confirmed by its being actually discovered in most cases. Any one familiar with the use of increasingly sized bougies in dilating the cervix must recognize the greater force required in dysmenorrhœal than in healthy women, and the increase of painfulness of the process as the force used, slight though it is, increases. The overcoming of this rigidity by temporary dilatation, not the overcoming of a mechanical obstruction, seems to me in some mysterious way to exert a generally beneficial influence on that part of the process of fecundation in which the uterus is implicated during insemination. For it may be held as almost certain that, during the natural sexual orgasm in coitus, the internal ends of the tubes, which we almost never see but as absolutely closed passages, are temporarily opened inside, and that the same happens to the cervix; and while it is probable that such wide opening of the cervix is not essential for fecundation, it must be held as facilitating it or rendering it more probable. Besides, this opening is an indication that the whole nervous arrangements, as well as the physical organs, are co-operating to produce the object in view. The opening here pointed out has, in its natural or healthy performance, and in the obstacle from rigidity, close analogy with similar processes going on during the premonitory and first stages of labor; and the dysmenorrhœal pains have analogy in the irregular painful and useless contractions and pains of these stages of labor, and of the hours immediately following delivery.

No other disease—local, or presumably local—has such importance in the theory of sterility as spasmodic dysmenorrhœa. This great place is established by the frequent association of the two conditions, and by the probable connection of the dysmenorrhœal neurosis with profluvium seminis, with disorder of sexual desire and pleasure, and with other derangements of the sexual orgasm of coitus. But dysmenorrhœa has its place confirmed in a unique way, for its cure is universally admitted to be a distinct and direct step toward the cure of sterility, and this can be said of no other local condition.

During recent times, no disease has more engaged the attention of gynæcologists than the catarrh and peculiar changes of the cervix uteri connected with it, known generally by the name of ulceration of the neck of the womb. To it, even when in a very slight form, has been ascribed a very great pathological importance, and the Croonian Lectures of West seem to have had less effect in bringing the profession to a just judgment of its comparative insignificance than the overshadowing influence of some other temporary novelty. Among other evils which this very prevalent disease has been alleged to produce is sterility; but there is not a tittle of evidence that it has any special influence in preventing conception; and we have, for guidance as to this matter, our best help in the fact that conception and natural pregnancy are extremely common during its continuance. Among twenty-six cases observed by Grünewaldt, with a view to the study of the changes of the cervix uteri in the first month of pregnancy, he found only eleven with a quite healthy state of the cervical mucous membrane. Six had papillary and nine catarrhal ulceration, which no doubt existed before conception.

Almost identical statements may be truly made regarding versions and flexions, and I do not repeat them. But in this department of gynæcology increase of knowledge not only tends to diminish importance, but to show that the great mass of versions and flexions are conditions of simple health.

The importance of those diseases which prevent the commencement of uterine pregnancy, or render such commencement improbable or difficult, needs only to be mentioned. To Grünewaldt we owe a careful statement of the extent and potency of this class of diseases, and for them he, as already said, vindicates a morbid superiority over those conditions which prevent conception.

The diseases and disorders of the genital organs, whether they act in preventing conception, in preventing uterine pregnancy, or in interfering with its natural healthy progress, are operative in individual cases, and demand the most careful study of the practical physician, for it is chiefly through his power over them that he can hope to cure sterility. That in the early stages of the study of these diseases their influence should be exaggerated is natural. At all times there can be no doubt their study and treatment will be most important, not only on their own account, but with a view to the improvement of the general health. In the case of those local diseases which may be proved to have no special influence in diminishing fertility, their removal, by increasing the general health, will help toward a removal of sterility.

Formation and Prevention of Bedsores in Nervous Diseases. By Thomas Browne, M.D., Staff Surgeon to the Royal Naval Hospital, Great Yarmouth. Communicated by the Director-General of the Medical Department of the Navy.

In the following paper on the formation and prevention of bedsores, I will first refer to some of the views put forth to explain their occurrence in connection with diseases or lesions of the nervous system.

Sir James Paget long ago pointed out that sloughing of compressed parts is peculiarly rapid and severe when those parts are deprived of nervous force by injury of the spinal cord or otherwise. Charcot refers to experiments made on animals where ulceration occurred in parts paralyzed by section of their nerves, and quotes the observations of Brown-Séquard that these ulcers or sores are produced by prolonged pressure and the contact of fæcal matter and decomposing urine to which the parts are exposed. He adds, if the parts are carefully and effectually protected from injury, lesions whose consequence is the abolition or suspension of the action of the nerves are impotent to produce in distant parts other nutritive disturbances than those attributable to prolonged inaction. Drs. Bucknill and Hack Tuke say that the formation of bedsores depends on the cessation of nutrition and consequent death of the tissues, and the blood contained in them, from obstruction of nervous force; and they mention some cases of general paralysis of exceptional severity where the thick fleshy cushion of the gluteal and lumbar regions was extensively involved in a way that bore a strong resemblance to traumatic gangrene. In these cases the slightest pressure produced sloughing; the weight of one leg crossed over the other in bed, or the weight of the hand or the forearm lying on the abdomen. In such cases as these, decomposition had set in while the vital functions were still languidly performed.

As a loss of mere sensation or motion will not of itself produce bedsores, it has been suggested that a lesion of the sympathetic and vaso-motor system of nerves might explain the rapid formation and extension of these much-dreaded sloughs. I may say, in passing, that the sympathetic system of nerves has in later years risen into importance and prominence. Its functions are not well understood, so that we are apt to look on it somewhat in the light in which a commander-in-chief does a good staff officer whose duties are ill-defined, but who is quite ready to be saddled with any odd job that seems to belong to no one else. We know that neuro-paralytic hyperæmia, however far it may go, is never of itself sufficient to cause an alteration in the nutrition of tissue. It predisposes to inflammatory action, and this is lighted up by causes which would be comparatively trifling in a healthy organism. Charcot expresses in strong language the opinion that the formation of acute bedsores depends on lesions which determine either in the nerves or nervous centres an exaltation of their properties, an irritation or an inflammation. He says they develop especially in those regions which are subject to pressure, to friction, or to prolonged contact with urine; but they may also make their appearance apart from these conditions, although the cases are rare. This view is concurred in by Mickle, who says the tissues melt down more rapidly or slough under acute trophic disorders of central or spinal origin.

In the course of this paper I trust to be able to show that bedsores, in nervous diseases, at any rate, except in very rare instances, may be entirely avoided. As my experience in the successful prevention of bedsores has been nearly confined to cases of general paralysis, my remarks will chiefly have reference to that disease, though I hope some useful deductions or wider application may be drawn. In general paralysis bedsores were formerly of common occurrence; indeed, toward the closing scenes, they were nearly the rule, their appearance was looked on as inevitable and a matter of course, hardly calling for observation or record. Some very dreadful pictures are drawn by various authors of their character and extent, as well as the septic poisoning that followed, till the patient became a mass of sloughs, a foul and offensive object to all about him. Happily, in later years a great improvement in this respect has been effected by all who have had the care of such cases, till a bedsore is now the exception in patients dying of general paralysis. Those who have seen much of this disease know well how profoundly the vital powers are lowered toward the end of a long case. Though healing may, and often does, rapidly occur in the less advanced stages, yet when the last stage is reached how slight is the hope that a bedsore will ever heal. I mean in that condition where the patient lies helpless, speechless, paralyzed in every limb, just able to swallow the food placed in his mouth, apparently insensible to all around him, and quite unconscious of the performance of the natural functions. There is little or no response to any stimulus ; with a lowered temperature the circulation creeps sluggishly on, having barely strength to reach the more distant parts of the body, so that if at any point it meets with the most trifling obstacle it simply stops. There is then, as Bucknill and Tuke expresses it, a "cessation of nutrition, and the consequent death of the tissues and the blood contained in them." In this condition bedsores are very apt to form unless the greatest care is observed. But there is another phase of the disease in which bedsores occur with readiness, where all our skill and attention will be fully taxed to prevent their formation—namely, during those nerve-storms in general paralysis, often recurring and of varying intensity and duration, which arise in connection with the epileptic fits so common in this disease. Here everything is the reverse of the foregoing dull picture of inert life, failing powers, low temperature, and languid circulation. There is, on the contrary, an exalted condition of everything, except to external impressions. There are high temperature, rapid pulse, and frequent convulsions, combined with profound insensibility, lasting it may be for days. The difference between these two states has been often pointed out, and is very marked ; and each of them has a bedsore with a distinctive character. In one the sloughs are slow in formation, have little or no inflammation, appearing after prolonged pressure, as if the result of functional inaction alone. In the other the lesions are rapid in formation, and are ushered in by the appearance of blisters or other signs of irritation or inflammation. One consists of passive lesions ; the other of trophic disorders. In each of these varieties there is something more than mere trophic change, as these sloughs only occur where pressure is added, and not, as in necrosis or ulceration of the cornea, following some injuries or diseases of the trifacial nerve.

For the prevention of these lesions I have nothing new or startling to introduce. I will only plead for a more careful application of those general principles which guide us in the treatment of other affections, modifying and adapting them to the special requirements of the condition before us. In the first rank may be placed careful feeding, cleanliness, diffusion of pressure, and the maintenance of an equable temperature in the extremities by the application of artificial heat where necessary. By careful feeding I mean a liberal mixed animal and vegetable diet of an ordinary character. So long as a patient is able to masticate, and can safely swallow his usual food, it is best for him to do so, for the digestive functions seem to last after all else is ruin. When the paralysis has advanced too far to allow solid food to be given with safety, a liquid or semi-solid dietary must be substituted. But it must not consist too exclusively of an animal diet, there must still be the due proportion of vegetable matter, and vegetable juices. Such can be easily and pleasantly given in soup, which should ever form part of the diet of a general paralytic.

In most of the books to which I have had access it is assumed that it is quite impossible to keep general paralytics clean and sweet. In my experience this is not so, but careful feeding is necessary as well as the most scrupulous and constant cleanliness to preserve a healthy skin. Probably a diet such as I have referred to may do its share toward keeping the skin sweet. We are all familiar with the disagreeable effect of an excessive animal diet on the skin of a dog. Perhaps our anxiety to sustain the vital powers and the view that a general paralytic in his last stage requires a generous diet with a liberal supply of port wine, may lead at times to the exhibition of a diet too purely animal, and in some measure accounts for the skin becoming dull, dirty, and greasy, despite ablution.

I have made little reference to the use of alcohol in the diet of a general paralytic, because I have a decided opinion that it can seldom be a desirable addition to the diet of a patient laboring under such a disease. It is suggested by some writers that chloral, so often useful in this disease, has a depressing effect, and that it is well to give alcohol in some form or other to obviate that result. But careful observations have shown that the pulse, as estimated by the finger, is not lowered by a moderate dose of chloral. The omission of alcohol in every form from the diet and medicine of patients suffering from general paralysis has been attended with no ill result. The experience gained at this hospital agrees with the observations of those writers who have recently stated that as the consumption of alcohol was reduced, the necessity for chloral greatly diminished, so that now in many hospitals the administration of chloral or other sedative is quite exceptional in cases of general paralysis.

I will now discuss the question of cleanliness, and how it may be most effectually attained. A high authority, referring to general paralysis, says: "They must not be allowed to lie in bed; they must be taken out of bed and thoroughly washed, for in the advanced stages it is difficult to keep them dry, and must sit day by day in an easy chair. If allowed to lie in bed, they very soon contract bedsores." My own experience differs much from this. In the paralyzed and absolutely helpless condition of a patient such as I have sketched when discussing passive bedsores, a mere inert living object, it would hardly be possible to keep him in any form of easy chair. Even did we succeed daily in dressing him and placing him in a chair, he would frequently be wet and dirty, for these patients follow no rule when the helpless stage is reached, and no attention is paid to the action of the bladder and bowels. Besides, the pressure caused by mere body weight in the most easy of chairs for three hours would be sufficient to cause a cessation of nutrition, and consequent death of the tissue on which the pressure fell. Its feeble life would be crushed out. A patient in such a condition is, in my opinion, best in bed, for only there can absolute cleanliness be observed. The patient must frequently be placed in a warm bath, gently washed, and carefully dried by the pressure of the towel, not rubbed, as the vitality is too low for that. There must be no hesitation about changing the patient when merely wet, as urine in contact with the skin acts like an escharotic, destroying its vitality like a blight. If the paralysis is far advanced and the patient helpless, he must be placed on a water-bed on which several layers of blankets and sheets have been laid, and in addition to this, especially during the periods of nervous exaltation and insensibility, his feet, ankles, knees, trochanters, sacral spines and ears, etc.—in fact, wherever there is pressure—must be protected by cotton-wool padding, so as to diffuse the pressure as much as possible. But in the lowered vitality and nearly stagnant circulation, or while the nerve-storm and epileptic condition lasts, this is not enough. Even with all these precautions a bedsore will form wherever pressure occurs, unless the patient be frequently moved, turned from side to side, or the point of pressure varied, in severe cases every hour by day, and every three hours by night, if the patient sleeps. The frequency with which the position is varied must be judged in each case. Special care in padding and frequent change of position are called for during epileptiform and apoplectic seizures, and for some days after their cessation.

The extremities must be examined from time to time and their temperature sustained, if necessary, by the application of warm flannel or hot-water bags, carefully guarded. Hot-water bags, not bottles, must be used; the former act as padding and diffuse pressure, while the bottles, being hard and resisting, would soon produce the sore we dread so much.

I have made no reference to local astringents or other preventive measures beyond cleanliness and padding. Every medical man has his own favorite application. Most of these are good of their kind, so long as they do not divert our attention from the more general measures necessary, and conceal from view the actual condition of the skin till, perhaps, irreparable mischief has been done. Such, then, is the means by which the formation of bedsores has been successfully avoided. Under gradually improved nursing and careful dieting, bedsores became more and more rare, till they finally disappeared, I hope forever, from the Royal Naval Hospital, Great Yarmouth. For a period of over four years, under various medical officers, there has been an entire freedom from these distressing complications, though there is a larger proportion of general paralytics here than in any other hospital in the United Kingdom. Some of these cases have been in a helpless, speechless condition, paralyzed in every limb and confined to bed for four or five years, yet there is not an abrasion on their skins, and they are free from all unpleasant odor, and have not become "dull, dirty, and greasy despite ablution." Such success can only be attained by the hearty and intelligent co-operation of a staff of good nurses and attendants on the sick, who take a pride in their work and in the state of their patients. We are so fortunate as to have secured such co-operation in this hospital. It is always a pleasure to go into the wards and see the care and kindliness so heartily bestowed on these most helpless and miserable cases. Should even a spot of redness appear on any prominent part the attendant is full of anxious thought and busy with little contrivances for the removal or diffusion of pressure, equally ready to carry out instructions or make suggestions such as a ward experience soon teaches any nurse worth having. For the prevention of bedsores a good nurse, with the faculty for taking trouble largely developed, is, above all things, necessary.

I will not be so dogmatic as to say that bedsores are always, and under every circumstance, preventable. I can easily believe in such a profound trophic change or degeneration of the tissues, such a depressed vitality with molecular death before the heart and lungs cease to act, as indicated by a cadaveric smell days before life, at last, flickers out, that, do what we will, the epidermis becomes abraded, and the discolored, inelastic, and already decomposing skin yields and breaks down before every touch. I have never seen a case like this, but I think I have several times seen a condition not far removed from it in the last twenty-four hours of the life of some of our general paralytics.—*Brit. Med. Jour.*

Condensed Milk as Food.—The French Society of Hygiene has received, through M. Meynet, the report of a committee appointed to examine a memoir by MM. Pellet and Biarel, on the composition and analysis of condensed milk, including also a discussion of the question of milk as an article of general food, especially for newly-born infants. The conclusions arrived at by the "Commission" have been tested and corroborated by consulting the analysis made by M. Chesnel, of the National Agronomic Institution. Also those made at the Municipal Laboratory on analogous products. MM. Pellet and Biarel begin their memoir by furnishing the following analysis.

The analysis of one hundred parts of condensed milk gave the following result :

Water	26.68
Ash	1.70
Lactose	13.80
Crystallized sugar	42.80
Butter and fatty matter	6.87
Nitrogenous substances	7.30
Not estimated, and loss	1.44
Total	100.000

Thus 100 grammes of condensed milk contain 42.80 of added crystallized sugar ; and 31.12 of dry matters contained in milk.

M. Pellet, basing his calculations on known analyses of cow's milk, admits that pure cow's milk contains, on an average, 13.50 of dry residue in 100 grammes. Consequently the condensed milk in question, containing 31.12 dry matter in 100 grammes, is equal to 230 grammes of pure milk. This would be the result of evaporating 230 grammes of milk previously skimmed, and having 42.80 grammes of crystallized sugar added to it. Hence 100 grammes of condensed milk, containing 42.80 grammes of crystallized sugar, and 31.12 of milk solids, represents more than five times 13.50 grammes of dry residue in 100 grammes of pure milk, consequently more than five times 100 grammes of pure milk.

The manufacturers of condensed milk assert that, in order to obtain a fluid similar to the best cow's milk, it should be mixed with four or five times its weight of water. If they are to be believed, 42.80 grammes of crystallized sugar added to the dry residue of 230 grammes of milk, and mixed with water, present, in the same proportion, all the constituent parts of about 500 grammes of milk.

According to M. Pellet's analysis, condensed milk contains 7.31 per cent of caseine ; hence 500 grammes of artificial milk (made by adding 400 grammes of water to 100 grammes of condensed milk) contains 1.46 grammes of caseine in 100 grammes. But, according to an analysis by Berzelius, quoted in Riche's "Elements of Chemistry," actual skimmed milk contains 2.6 per cent of caseine or 1.14 more than the artificial milk.

The Committee next take into consideration the use of condensed milk as food for infants—a subject which they rightly consider as of the highest importance. The manufacturers of condensed milk allege that, for infants, it should be diluted with seven and a half or even nine times its weight of water. Setting aside the alleged equality in the proportions of sugar and butter, they give the amount of caseine in artificial milk, found by adding certain quantities of water and 100 parts of condensed milk : namely, with water 400, the artificial milk contains 1.46 per cent ; with water 500, caseine 1.21 ; with water 600, caseine 1.04 ; with water 700, caseine 0.91 ; with water 800, caseine 0.81 ; with water 900, caseine 0.73. Boussingault and Regnault give, as an average quantity of caseine in cow's milk, 3.6 per cent. Berzelius says 3.05. In order to obtain artificial milk, containing caseine in the same proportion as cow's milk, it must be prepared with condensed milk and water in equal parts, so that artificial milk shall contain 731 of caseine, or therefore 3.65 per cent. The condensed milk analysed by M. Pellet was by no means poor in quality ; he says it contained nitrogen in the proportion of 1.50 per cent. In five analyses, made by M. Chesnel, of different samples of condensed milk, the average percentage of nitrogen was 1.41. In four analyses of different samples of milk, made at the Paris Municipal Laboratory, the average quantity of nitrogen was 1.19 per cent. The specimens contained show, on an average, water 24.89 per cent; crystallized sugar 39.45; lactose 14.28; butter 10.44; albuminoids 9.3; ash 1.66.

The following table shows the relative proportion of the constituent parts of cow's milk and artificial milk, prepared with condensed milk, mixed with five parts and ten parts of water.

	Cow's milk	Artificial Milk No. 1. Condensed milk.. 1. Water............ 5.	Artificial milk No. 2 Condensed milk.. 1. Water.......... .10.
Sugar....	0	78.90	39.45
Lactose...	52.70	28.98	14.04
Butter....	40	20.84	10.42
Caseine...	36	18.98	9.49
Ash......	6	3.32	1.66
Water....	870	848.98	924.94

In cow's milk, the solid products are 134.7; in milk No. 1, 72.12; in milk No. 2, 35.61; not reckoning the sugar.

MM. Pellet and Biarel seem to justify this form of nourishment, containing so large a proportion of water and sugar, by furnishing two comparative analyses of cow's and human milk; one by Doyère, the other by Millon and Commaille. This, they believe, indicates that condensed milk, diluted in the proportion given above, is very similar in composition to average human milk. Thus, Doyère gives the proportion of caseine in human milk as 0.34 per cent, and in cow's milk as 3 per cent. Millon and Commaille state that human milk contains 2 per cent of caseine, and cow's milk 25.49 per cent.

MM. Pellet and Biarel add, that cow's milk, compared with human milk, contains: 1. Ten times more caseine, a substance rich in nitrogen, and therefore nutritive; 2. Six times more albumen; 3. The same quantity of lacto-proteine; 4. Half as much lactose or milk-sugar; 5. Two and a half times as much ash.

With regard to condensed milk reduced to a dry state, they observe that it contains less fatty substances than either human milk or cow's milk, but more sugar than human milk. The proportion of ash is very similar in the two kinds of milk. In the dry matter, nitrogenous principles are present in the proportion of 5.40 per cent, but in the condensed milk from 11.90 per cent, or more than double the quantity.

M. Pellet quotes the analyses of Doyère and of Millon and Commaille as evidence that human milk contains from one to ten times less nitrogenous substance than cow's milk. According to M. Wurtz, the following table shows that human milk contains from three to four times less nitrogenous matter than cow's milk.

	Maximum. Human.	Maximum. Cow.	Minimum. Human.	Minimum. Cow.
Butter....	7.60	5.40	0.53	1.44
Caseine....	0.85	4.30	0.00	1.90
Albumen....	1.90	1.50	0.60	1.09
Lactose....	8.20	5.25	5.90	3.90
Salts......	0.23	0.88	0.16	0.65

According to Boussingault, the proportion of caseine in human milk is 3.8 per cent; in cow's milk 3.6. According to Regnault, it is in human milk 3.9; in cow's milk, 3.6; in bitch's milk, 1.6 per cent. According to Littré, human milk contains from 2 to 4 per cent of caseine. Although he certainly never made any analyses, he has doubtless, with his usual accuracy, arrived as near as possible at the truth. Simon, cited by Professor Riche, states that in human milk the proportion of caseine, from the day of delivery to the 136th of the child's life, varies from 1.96 to 4.52 per cent.

The "Commission" arrive at the following conclusions: 1. Condensed milk containing sugar, diluted with twice or four times its weight of water, may be considered as an article of food, and in some cases would prove useful. 2. Artificial milk thus prepared is incontestably inferior to good cow's milk. It is a healthy article of food, but only slightly nutritive. 3. The directions given in the prospectus are calculated to mislead the public. Condensed milk, diluted with from six to ten times its weight of water, cannot be classed as an article of food. 4. Newly-born infants, which have been suckled for three or four months, may be weaned and fed with good cow's, goat's, or ass's milk, not mixed with water, and given in sufficient quantity. Condensed milk containing sugar, diluted with from two to three times its weight of water, may form part of the the daily nourishment of such children; but it would be certainly imprudent to use it alone.—*British Medical Journal.*

The Pocopson Eruption.—Vesuvius and other old-fashioned volcanoes have at various times thrown up a large variety of interesting and improving minerals, but there was an eruption in Pocopson, Penn., the other day, of an entirely novel description. It consisted of kitchen utensils—pans, pots, and pails, together with axes, bones, a complete stove, and a lemon squeezer. The eruption lasted only a few minutes, and has not been renewed, so that Pocopson was spared the terrible fate of being buried out of sight under unwashed frying pans and Champion cooking stoves.

The circumstances of this peculiar freak of nature were as follows: A leading citizen of Pocopson was working in a stone quarry, where he had drilled a deep hole. The hole was afterward charged with gunpowder and the slow-match lighted. According to all precedent, the resulting explosion should have filled the air and broken the neighboring windows with a shower of stones; but, to the unspeakable astonishment of the leading citizen, nothing but kitchen utensils, together with a few human bones, were thrown up. It should also be mentioned that no windows were broken and that no utensils fell upon the heads of the residents of Pocopson—a feature which alone would have distinguished the eruption from any ordinary blast.

From whence came the cooking stove and the pots and bones? Obviously they came from a depth below the surface of the rock which forms the Pocopson quarry. The thickness of this rock from its original surface to the lowest point to which the drill penetrated is estimated to be 37 feet 5 inches. The rock itself is reported to be the common blue limestone of the Alleghany region. Blue limestone, in the opinion of the most eminent geologists, is deposited by nature at the rate of one inch in every 8740 years, which is even slower than the rate at which an Irish laborer deposits blue limestone flaggings when paving a sidewalk under the instructions of a city contractor. The kitchen utensils thrown up at Pocopson were, therefore, not less than 3,915,520 years old, that being the period which must have elapsed since the limestone deposit began to cover them.

From these facts it is evident that nearly 4,000,000 years ago cooking stoves and all the furniture thereunto appertaining were in use by man. The theory that the stone age is the earliest period of the human race must now be abandoned. The Pocopson eruption shows us that the cooking stove age preceded the stone age by at least 2,000,000 years. The cooking stove age was also contemporaneous with the axe age, the water pail age, and the lemon squeezer age. Man at that period was so far civilized that he ate cooked food, drank punch, and probably compelled his wife to split kindling wood. Thus the present theory that man lived at first upon raw chicken killed with stones; that he next formed the habit of eating out of bronze vases, and that he did not use iron in any shape until long after the stone and bronze ages, is utterly overthrown. The cooking stove age antedates the stone, bronze, and iron ages, and, according to the testimony of the Pocopson rocks, the cooking stove age is separated from us by the tremendous chasm of 3,915,520 years. It is to be hoped that a second eruption will throw up a few newspapers of the cooking stove age, from which we may be able to ascertain more of the habits and customs of primeval man. As to the imbecile suggestion made by a Pocopson paper of to-day, to the effect that the drill of the quarryman must have pierced a cave recently occupied by illicit whiskey distillers, it does not deserve a moment's attention. The man who makes this suggestion would, if encouraged, be capable of upsetting the whole science of geology, and he must not receive the slightest approval or toleration.—*Times.*

PROCEEDINGS OF SOCIETIES.

New York Academy of Medicine.—A stated meeting was held, Fordyce Barker, M.D., LL.D., President, in the chair.

The scientific work of the evening consisted in the reading of two papers, the first by Dr. Gaspar Griswold, entitled "Notes on Crystalline Elaterin."

The author first spoke of elaterium as being one of the best of hydragogue cathartics, but it had largely fallen into disfavor because of the great variation in strength of different specimens; it therefore became very desirable to obtain a preparation which could be relied upon in all cases, especially those of a critical nature, and he believed that such a preparation was that of Merck's crystalline elaterin, which was identical with that obtained by Morries in 1831. The difference in the method of manufacture, and the appearance of elaterium in its ordinary and impure forms, and crystalline elaterin, was described, and some cases in which the latter had been tried, in all with excellent results, were cited. The conclusions reached were: First, that the crystalline elaterin of Merck, now for sale in this city, is identical with that described by Morries in 1831, and is the active principle of elaterium; second, that its definite crystalline form, its freedom from impurity, render it more reliable than any preparation of elaterium; third, that the proper dose to commence with is one-tenth of a grain, and that this may be prescribed in a solution of one grain of elaterin to half an ounce of alcohol, or in the form of tablet triturates containing one-tenth of a grain.

The second paper was entitled "Anteflexion of the Uterus: its Etiology and Associated Pathological Conditions," and was read by the author, Dr. W. Gill Wylie, who opened his remarks with a description of the uterus and its anatomical relations in a state of health. He gave the average depth of the organ as a little more than two and a half inches. It was flexible, and when pressure was made upon its upper portion it bent, principally at the internal os, forming not an acute angle, but a curve such as would be formed by a rubber tube with thick walls and small calibre. The uterus was held in position principally by connective tissue, fascia, and peritoneal reflections, which formed more or less distinct ligaments containing a certain amount of muscular tissue, and which were sufficiently elastic to allow of mobility of the organ, especially in an upward and downward and backward-and-forward direction. The elastic contractility of the muscular structure of the arteries, of the ligaments, of the connective tissue of the skin, of the so-called cellular tissue, of pelvis, etc., exerted a pressure which he designated by the term *vital musculo-connective-tissue pressure.*

The dynamics of the pelvic cavity were considered, especially with reference to the influence of force in causing anteflexion. Atmospheric pressure has little to do with keeping the pelvic organs in place by opposing gravity. The influences which prevented the uterus from bending forward at or above its middle when the person was in the erect position, or when the organ was pressed upon by the force transmitted by the action of the diaphragm, abdominal muscles, etc., were—first, the firm and elastic nature of the organ, which tended to keep it in normal shape ; second, its forward inclination and slight anterior curvature, which placed it in the best possible position to enable it to withstand both continued and sudden waves of force from the action of the diaphragm and the abdominal muscles ; third, the influence of the vital musculo-connective-tissue pressure, or the sustaining power of the surrounding flexible and elastic adjustable tissues, which were filled with blood, fluids, etc. The uterus while surrounded by these elastic and adjustable tissues during life was sustained in the manner of a flexible sea-weed surrounded by water. Those who advocated the mechanical pathology of uterine displacements had overlooked this influence largely, and had, therefore, exaggerated the effects of sudden falls in producing anteflexion and the value of mechanical support in effecting a cure. The downward pressure on the uterus by the forces already referred to tended in its normal state to produce prolapsus rather than anteflexion. But when the organ was soft, the causes which tended toward flexion during the downward pressure of the diaphragm and the abdominal muscles were—first, the normal position of the organ, which was one of anterior curvature, and, when the tissues were soft, the weight of the fundus tended to increase such curvature ; second, downward pressure would cause the pouch of Douglas and the bladder to yield first, which made taut the utero-sacral ligaments attached to the uterus posteriorly, at a point just above the vaginal junction. Until they yielded, this part of the uterus would be retained upward and backward, while the abnormally soft cervix would be pushed in the direction of the vaginal axis, and the utero-vesical ligament would be made taut only at its higher points of attachment to the uterus, and the fundus would be pulled downward on the bladder. The third cause involved a consideration of Hart's division of the floor of the pelvis into two segments. The fourth cause of flexure of the uterus when soft was loss, to a greater or less extent, of the vital musculo-connective-tissue pressure. The bladder, except when considerably distended, had little or no influence in changing the position of the uterus ; when greatly distended, it carried the organ downward and tended somewhat to straighten out the anterior curvature. The rectum, unless habitually distended, did not affect the position of the uterus to any important extent. There might, of course, be other mehcanical influences brought to bear. The point of greatest curvature in anteflexion was often difficult of determination ; as a rule, it was just about the os internum ; first, because the uterus at this point was smaller than at any other point ; second, it was at this point that the cervix and the body, which were somewhat different in structure, united ; third, it was here that large blood-vessels were found, which tended somewhat to weaken the walls ; fourth, just at and above the os internum the uterus was free, while the cervix just below was fixed by a firm supporting ring, formed by the attachment of ligaments. When the vaginal portion of the cervix was abnormally soft or long, flexion might take place in that portion.

The time for making an examination to determine the exact degree of curvature which existed should be selected, and a period about midway between the commencement and the cessation of a menstrual period was usually preferable, as at this time the uterus was more likely to be in a quiet state, indicating the true amount of flexion.

After speaking of the variability of the generative organs, the degree of anteflexion and its frequency were referred to. It was to be found in all multiparous women in some degree, but the angle of flexion might vary between 165° and 135° and not indicate an abnormal condition.

Under the etiology, congenital influences which prevented perfect development of the organs of generation undoubtedly greatly predisposed to anteflexion of the uterus, and had much to do with premature atrophy and degeneration, which were so frequently associated with it. The evil influence of modern modes of life, the development of the intellectual at the expense of the physical system, the condition of the general health, anæmia, and other unhealthy states of the body, had their influence in the production of anteflexion of the uterus. Child-bearing was commonly enumerated as a cause, but the author preferred to modify the expression, and say, too frequent child-bearing, or abnormal labor, or the puerperal state, or labor in an unhealthy woman, might be causes of anteflexion. Other causes were mentioned.

With regard to pathology, the writer said that for several years past he had given up the belief that anteflexion frequently directly caused dysmenorrhœa by mechanically closing the canal and thus obstructing the menstrual flow. Where there was obstructive dysmenorrhœa, except in rare instances, he believed it to be due, as a rule, to stenosis of the os uteri at some point, or clonic spasm at the os internum ; that it was due to the hyperæsthetic condition at or near the os internum, combined with more or less stenosis. He divided anteflexions into two classes—those which were congenital, and those which were acquired, including among the former those cases in which the deformity occurred before maturity had been reached, and in which the cause was imperfect development. The peculiarities of these two classes of cases were then considered.

DISCUSSION.

D. T. A. Emmet was requested by the President to open the discussion, and said that the subject was so broad a one that it was impossible in so short a space of time to discuss all the points involved. He thought, however, that the question could be simplified very much by recognizing, in accordance with his own experience, that in anteversions of the uterus, as in most other versions, the trouble was due entirely to an inflammatory action, or obstruction in the circulation outside of the uterus, usually to a cold. When dysmenorrhœa accompained that condition, it was not a mechanical effect, but was due to faulty nutrition, obstruction of the circulation, and effects upon the nervous system and general health. He thought it was important to recognize this cause of flexure, for the simple reason that we have no greater amount of malpractice than in the treatment of this condition by dilating the cervix, making applications within the uterine canal, etc., treating the effect as if it were the cause. He did not know that he had ever seen a case of anteflexion of the uterus give the patient any trouble but what there existed inflammation within the pelvis somewhere ; and that explained why we almost invariably had trouble in surgical procedures for its relief. This fact should be borne in mind also in attempting to correct what we considered malposition. There was often malpractice in attempting to replace the organ, as it was imagined should be done, when it was not known what should be its proper place ; there was danger of setting up inflammation anew. This was equally true in the treatment of other uterine versions, and he believed that this fact explained why there was such a wide difference of opinion with regard to the use of pessaries. Whenever anteversion existed—and he limited his remarks to this form of displacement, as it alone had been discussed in the paper—we had first to reduce inflammation to a point where it was safe to take steps to restore the uterus to its normal position. Whatever mechanical appliance was used, it simply gave the patient relief by raising the uterus to a certain point in the pelvis where the circulation could be restored. There were cases even where the anteversion might be made greater by raising the organ higher within the pelvic cavity, and yet relief be afforded thereby, simply because strain was taken off the ligament which had been shortened, and the circulation restored.

Dr. W. T. Lusk said that he had been invited to take part in the discussion, but that nearly all the remarks which he had expected to make had been anticipated by the author of the paper, and he would not further consume the time of the Academy.

Dr. W. M. Chamberlain had been extremely interested in the paper, and he believed that it involved a range of inquiry which we would all do well to prosecute. He would refer to a single illustration of the propagation of the force of the diaphragm, the abdominal muscles, etc., referred to by Dr. Wylie. Whoever had had occasion to observe the movement of the abdominal contents in a patient etherized and seized with a fit of vomiting would recognize the fact that the maximum of downward pressure by wave-motion was not exerted in Douglas's cul-de-sac, but rather in the interspace anterior to the uterus and upon the wall of the bladder. The extrusion of the vaginal wall, as he had seen it in such cases, had always been much more in the form of a cystocele than in the form of a protocele ; that is, the anterior wall descended much more than the posterior. He believed that the question of uterine dynamics should be considered with reference to education and habit as well as to the cure of displacements. Manifestly, any great departure from the order of nature which fashion dictated was mischievous. He would name, for example, the effects of posture, such as was assumed more two or three years ago than at the present time, called the Boston dip, which consisted in relaxing the walls of the abdomen and bending the body forward. If one would imitate the posture, and observe the effect upon the viscera, he would see that it nullified the anatomical support of the organs, as Dr. Wylie had stated. The influence of high-heeled boots in diminishing and altering tension upon the anterior wall of the abdomen he believed to be a matter worthy of consideration. He was particularly pleased with the author's statement with regard to the term vital musculo-connective-tissue pressure. While Dr. Emmet had spoken of anteflexions, in which the trouble was dependent upon a greater or less amount of inflammatory process, he thought there were also cases in which anteflexion, and more especially cases in which anteversion, was a source of great discomfort to the patient, and which would never be cured by mechanical appliances, because they were dependent essentially upon an empty state of the connective tissue, and that in many of these women who were bedridden the version or flexion of the uterus continued simply because they were bedridden, and the only means of cure would be found in the use of measures for the restoration of the general tone of the entire system, particularly measures for bringing about healthy nutrition.

Dr. Wylie, in closing the discussion, said, with regard to the point made by Dr. Chamberlain, that in a patient under the influence of ether the anterior wall of the vagina was that which descended. It should be remembered that in Sims's position the curve of the spine was mainly taken out, and the greater part of the force was directed downward more in the direct line of the vagina. He believed that when the healthy woman stood erect the pressure was exerted equally, and the uterus tended to sink evenly.—*Medical Times.*

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MISCELLANEOUS.

Severe Hæmorrhage after Tooth-Extraction Treated by Transfusion.—The *Revue Odontologique* for April contains an interesting account of a case of almost fatal hæmorrhage after tooth-extraction. The patient, a young soldier of twenty-two, with a marked history of hereditary and collateral hæmorrhagic diathesis, was admitted to the Hôtel Dieu, and had some molar roots removed without telling the house surgeon any facts as to his history, and the operation which was performed was followed by profuse hæmorrhage of a dark color, without clots. Next morning plugging with lint and perchloride of iron was tried without permanent effect. On the third day actual cautery was tried at the bottom of the socket, followed by plugging with compressed sponge, the jaws being fixed by a bandage, and ergotine subcutaneously injected. On the fourth and fifth there was no hæmorrhage; injections continued. Next day (the sixth) the bandages, etc., were removed, owing to sloughing and suppuration of the gums, and from the raw surfaces profuse bleeding recurred, and no local measures were effective to arrest it. On the eleventh day the patient was moribund, and it was decided to try transfusion of blood. After plugging the socket again, 100 grammes of blood were transfused into the cephalic vein, with immediate relief to the patient. In three hours the trouble began again and continued till next morning, when, after a second transfusion, the patient began to revive, although an access of syncope nearly proved fatal during the operation. However, the hæmorrhage was stopped, and in six weeks the patient was discharged cured.

Glycerine.—M. Desguin, of Anvers, has given glycerine internally in certain forms of skin disease with, it is said, marked success, especially in acne punctata and the furuncular diathesis. He commences with four drachms daily, and gradually increases the dose. He states that the secretion of the cutaneous glands, which is thick and irritating in these diseases, becomes more liquid, and cutaneous irritation is notably lessened. During convalescence from scarlet fever, he believes that it facilitates desquamation.

Nitrous Oxide and Chloroform.—Nitrous oxide and ether are frequently administered in combination, or rather in succession, as a means of producing anæsthesia. The employment of a combination of nitrous oxide and chloroform has been recently advocated by M. de Saint Martin. Experiments on animals lead him to prefer the mixture of eighty-five volumes of nitrous oxide with fifteen volumes of oxygen and six or seven grammes of chloroform added to each hectolitre. This mixture causes anæsthesia very rapidly, and the period of excitation is suppressed; and the chloroform, moreover, being much diluted does not irritate the air passages. The working zone of this mixture is far greater than that of chloroform alone.

Quinine is the only new thing under the sun that seems to be good for everything (Quinologist). The last number of our excellent Vienna exchange, the *Pharmaceutische Post,* states that Prof. Wiesenthal employs the hydrochlorate or sulphate of quinine for the purpose of removing or masking the smell of musk. He states that a small amount of quinine suffices to completely mask the odor of musk, and says that a few drops of acidulated water poured upon the hands, and a few grains of quinine added, will at once remove any odor of musk that may be on them.

THE ACTION OF COFFEE.—M. Guimares, in a recent communication to the Paris Académie des Sciences, states that various investigations which he has made on dogs show that, whether the animals are starving or well fed, coffee always causes an increased excretion and an augmented disassimilation. But when moderate quantities are taken, the process of assimilation rises in the course of a few days, and the increase in the processes of nutrition coincides with a marked increase in the amount of blood-pressure, with acceleration of the cardiac and respiratory movements, with a slight increase in the rectal temperature, and the excitability of the nervous centres. Doses too large to be well borne are necessary to produce the opposite phenomena of retardation of the heart, and diminution in the blood-pressure and temperature. Thus the value of coffee, long known empirically, can be understood. Useful by reason of its nutritive principles, it is also useful by the larger quantity of nitrogenous material which can be assimilated under its influence.

THE CHOICE OF BOOTS AND SHOES.—Although much has been said and written in recent years about the physiology of the foot and its coverings, we are afraid comparatively few people are yet to be found among us who choose their boots and shoes upon intelligent or even intelligible principles. Although most persons wear their boots both too small and of wrong shape, faults of size are now probably more common than faults of shape. It is not generally recognized that the foot expands in the action of walking, both in length and in breadth. An adult foot in walking often expands as much as a tenth of its length, or about an inch. In breadth, it expands proportionately more; often as much as an eighth, or about half an inch. In choosing boots and shoes, this double expansion ought to be allowed for. It is because this physiological enlargement of the feet in walking is so frequently overlooked, that boots and shoes so often become dangerous contrivances for deforming the shape, and crippling the motions of the feet. A shoemaker usually measures his customer's foot when the person is sitting, and when the measured foot is raised from the ground; and it will be found that, as a rule, he allows only a twenty-fourth part of the length of the foot for expansive increase in that direction during walking, while he generally does not allow anything for expansion in breadth, being content to take the exact circumference of the foot, at one or more points, while the extremity is in its unexpanded condition. Boots and shoes of faulty shape are not now so often seen as formerly. Improvement in this direction is probably in great part due to the excellent example which our army shoemakers have lately exhibited. The authorities have happily recognized that the safety of our troops in the field depends upon the shape of their shoes, as well as upon the color of their clothes. In the army shoe stores at Pimlico, scrupulous attention is now paid to the shape and "make" of soldiers' boots, in conformity with the principles laid down by Camper, Meyer, and other well-known writers on the subject. There are eight sizes of length and four of breadth, giving thirty-two sizes in all. The boots are made right and left. The inner line of the boot is made straight, so that the great toe is not pushed outward, and there is a bulging over the base of this toe to allow free play for its large articulation The toes and the treads of the boots are very broad, so that the lateral expansion of the foot in these situations is not impeded. The heels are broad and low, so that the wearer's weight is not thrown upon his toes. A low heel gives free play to the muscles of the calf, and a broad heel gives a substantial support to the posterior pier of the pedal arch. Dr. Parkes found that the importance of a good boot is known to every soldier. Marshall Saxe wrote, in his "Memoirs," that there is no article of a soldier's dress more important than his boots, and that battles are won by legs. It is related of the late Duke of Wellington that; on being asked what was the best requisite for a soldier, he said, "A good pair of shoes!" What next? "A spare pair of good shoes!" What next? "A spare pair of soles!"—*Lancet.*

INCREASED DURATION OF LIFE.—By Dr. Farr's "English Life-Table," the mean duration of life, or mean after-lifetime of males at birth, was 39.9 years, whereas, by the new table, it becomes 41.9, representing an increase of two years, or an addition of 5 per cent to the mean duration of the lifetime of males. The recent addition to the lifetime of females appears to be still more marked. According to Dr. Farr's life-table, the mean duration of life of females was 41.9 years, whereas the new table makes it 45.3 years, representing the addition of nearly three years and a half, or more than eight per cent to the average lifetime of all females born. So far, the paper proves that the reduced death-rates signify an important addition to the lifetime both of males and of females. In order, however, to be able to answer such inquiries as, "Are we young longer, or mature longer, or old longer?" it was necessary to determine at what periods of life the additional years of male and female existence are lived. For this purpose, the 40 years from 20-60 are classed as the useful period of human life, whereas the years lived before 20 and beyond 60 years, are termed the dependent period. According to the new life-table, 1000 males will live 2009 more years than they would by Dr. Farr's table, and the paper shows that 1407, or 70 per cent of those years are lived between the ages of 20 and 60 years; 22 per cent are lived under 20 years, and 8 per cent over sixty years. The increased number of years lived by 1000 females is 3405, 65 per cent of which are lived at the useful ages between 20 and 60, 18 per cent under 20 years, and 16 per cent above 60 years. Thus 66 per cent of the increased duration of human life in England is lived at the useful and productive period, and not more than 34 per cent at the dependent ages either of childhood or old age. These facts appear to supply a complete refutation of the assertion, with reference to the reduced death-rate, that "the improvement effected by science" consists in a prolongation of the passive endurance of life, rather than an extension of the power of true vitality, or any increase of the opportunity for good work and for intellectual enjoyment.

William Farr, M.D., C.B., D.C.L.—We have to announce, with deep regret, the death of Dr. William Farr, C.B., for many years the illustrious head of the Statistical Department of the Registrar-General's Office. Dr. Farr, for a large part of his lifetime, held the first position among vital statisticians in this country, and, indeed, in Europe. He first became connected with the Registrar-General's Office in 1838, when he was appointed compiler of abstracts. He there rapidly showed that genius for statistical inquiry, and for its applications to the statistics of life and death, which distinguished him throughout his subsequent career; and he organized the statistical department of the office. His reports and appended letters to the annual reports of the Registrar-General are documents, which mark successive epochal advances in the science of vital statistics and their application to national progress. The returns which he organized were the admiration of statistical Europe, and have been imitated throughout the world, but nowhere have they yet been equalled, although the models which he framed and furnished have been assiduously studied by all contemporary vital statisticians. It is not too much to say that the figures collected by him, the principles which he deduced from them, and the accomplished skill with which he impressed the doctrines of sanitary law upon statesmen and upon the public mind, have done more to forward the progress of sanitation throughout the world than the labors, perhaps, of any other man who could be named. Farr and John Simon stand side by side as the foremost figures of their time among the heroes of preventive medicine; and the debt which humanity owes to them has been recognized in every other country far more amply than in their own. Among the collateral services rendered by Dr. Farr, was the construction of life-tables illustrating the value of annuities, and laying down the bases for the English insurance companies. As an actuary, or in any other collateral department than that which he chose as an officer of the Government, he might have combined fortune with fame; as it is, he remained for all the working years of his life an underpaid hard-worked subordinate officer of the Government. Others reaped where he sowed, and others wore the laurels which he won; nevertheless, the lot chosen by him was as honorable as it was useful. The labors which he underwent for the service of his country and for the good of humanity remain a permanent gain to the race. In no other capacity could he have rendered services so signal; that he was requited with something more than ingratitude, that he was condemned partly by carelessness, and partly by a system of bureaucratic oppression, to comparative obscurity, may have caused him some temporary pain, as it deeply wounded and angered his friends and the scientific public generally. But neglect and suppression of this kind have too long been the fate of the ablest servants of the State in all that relates to the saving of life to make his case singular. He was one of a great band of workers to whom this country and the world at large owes more than is yet known, or than the world is willing to acknowledge. History, directed to the study of social conditions, and to those who have laid the bases for sanitary improvement, will recognize in William Farr a name always to be inscribed upon the rolls of fame in striking and indelible characters. It will designate him as one of the true heroes of his day, and one whose work will live for long years after the very existence has been forgotten of many of those whom in his day the State delighted to honor, while it left Farr unrewarded. The circumstances attending his retirement will be fresh in the memory of most of our readers; the grudging requital of his grand life-work by the slightest honor which it is in the power of the Crown to bestow on any of its public servants, will not be forgotten. But nothing could dim the value of his work, the nobility of his example, his modesty, his eloquence, his capacity, his unwearying zeal, his brilliant power of exposition, his unfailing courtesy, his patience and gentle kindness, his skill in the discussion of figures, his philosophical power of deduction, and his splendid contributions to the statistical literature of his day. In his earlier life, Dr. William Farr was a medical journalist, and for many years he retained a deep interest in the progress of medical journalistic literature. We were constantly indebted to him, during a large part of his period of office, for most courteous and able assistance in the discussion of subjects of vital statistics; and in Dr. Farr our readers have reason to mourn, not only a medical hero of the highest distinction, but a friend and counsellor, to whose anonymous services they were frequently beholden.—*Brit. Med. Jour.*

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MEDICAL NEWS.

New Cure for Small-Pox.—The Mexican Consul in Madrid, Spain, under date of April 15th, 1883, wrote to his Government in Mexico as follows, viz.:

In *El Liberal*, newspaper, which is published in this city, appeared an item which I believe to be of public interest to make known in our country, in order that the medical faculty may study and make use of the information which it gives for the good of humanity of the treatment which ought to be used to cure perfectly the terrible disease of small-pox. Ramon Carona.

To the Secretary of Foreign Relations: A surgeon in the English army in China has discovered a remedy very efficient in small-pox. The disease is treated as follows:

When the fever has reached the highest point, and before the eruption appears, rub the chest of the patient with croton oil and tartaric emetic ointment, which makes the eruption appear on that part of the body, and not on the rest of it.

By means of this treatment they also obtain the result of causing the eruption to break out entirely, and of preventing the disease from attacking the internal organs.

Such is the treatment adopted in the English army in India, and it is considered a perfect cure!!!!

At the annual meeting of the National Board of Health, held in Washington, June 22d, the following officers were elected to serve during the ensuing year: President, Dr. James L. Cabell, of Virginia; Vice-President, Dr. Stephen Smith, of New York; Secretary, George E. Waring, Jr., of Rhode Island; Executive Committee, Dr. T. S. Verdi, the Hon. T. Simons, and Dr. Charles Smart. After the transaction of considerable routine business, the board decided to tender to the President of the United States the quarantine outfits at Ship Island station, Mississippi River, and at Sapelo Sound, Georgia, for use in connection with the fund placed under his control by Congress for the prevention and suppression of epidemic diseases.

Vivisection.—A parliamentary return was issued this week showing the number of experiments performed on living animals in 1882. Fifty-two persons held licenses to experiment, but sixteen did not use their licenses. Four hundred and six experiments were performed, of which one hundred and eighteen were carried out under the restrictions of the license alone, and two hundred and eighty-eight under certificates with special restrictions. The animals made use of were chiefly frogs.

Dr. Karl Friedrich von Heusinger, formerly Clinical Professor in the University of Marburg, died on May 6th, at the age of ninety-one. He was appointed to the office in 1829, and held it nearly forty years. He was previously (1821) Professor of Physiology and Comparative Anatomy in Jena, and (1824) Director of the Physiological Institute in Würzburg. He was the author of an encyclopædic work on "Natural History and Therapeutics," and of important contributions to comparative pathology and medical geography.

The vote of £10,000 for new laboratories for physiological research at Oxford, England, for Professor Burdon Sanderson, was energetically opposed in the Senate, partly on the ground that vivisection would be practised, and partly on account of the expense being beyond the existing resources of the University. It was carried by a narrow majority.

The *Cincinnati Lancet* says that "the business of looking after the health of that city is vested in a health board, whose active members are two saloon-keepers, two druggists, and one politician.

Crystalline Elaterin.—At a meeting of the New York Academy of Medicine, on April 19th, Dr. Caspar Griswold read a note upon crystalline elaterin, which, he said, had been found, after considerable experience, to be a thoroughly reliable article, and of uniform excellence, while most of the other preparations of elaterium (which was well known to be really one of the most efficient of hydragogue cathartics) were so unsatisfactory and variable in their action, that the profession had to a great extent given up the use of the drug.

PORRO'S OPERATION.—In the Obstetric Clinique of the Maternity at Milan, Professor Porro, for the fourth time, performed his well-known operation for the removal of the gravid uterus and its contents. The pelvis was greatly contracted in consequence of rickets, and pregnancy had advanced to the middle of the ninth month. The operation occupied twenty minutes, and was unattended with hæmorrhage. According to the *Gazetta degli Ospitali* the mother was progressing favorably at the end of a week.

THE WORLD DOES MOVE.—It is understood that when the new buildings of the Medical Society of London are finished, which may be expected at a very early date, his Royal Highness, the Prince of Wales, will honor the Society by being present at the *conversazione*, which will be given on the occasion of the opening.—*Ex.*

THE Faculty of the New York Polyclinic gave, on Saturday, June 23d, at "Delmonico's," a dinner to the Assistant Clinical Staff of the Polyclinic. The occasion was a very enjoyable one to all present, and a handsome tribute to those who deserved this generous recognition of their able services. The Dean stated, in his speech, that the Institution was in a highly prosperous condition.

HEALTH AND HOME AND ITS AUTHOR, W. H. HALE, M.D. (?)—The public are warned against a vile, obscene publication by the above name, and against its author, the scamp whose name is also given above. The *Wheeling Register* has the following statement, which it is well to read carefully: *Health and Home* is a low, vulgar paper which was thrown upon this community a few weeks ago by a man calling himself "Dr. Hale," of Edinburgh, Scotand, and who, to the credit of West Virginia, was speedily driven out of Wheeling by the State Board of Health after his true character was discovered. This fellow came to Wheeling, took rooms at the New McLure House, and for six nights gave free lectures at the Academy of Music. At the expiration of his lecture term he began the practice of medicine, when the law made its reasonable demand upon him, and in order to escape arrest he left the city in a hurry.

DIED, June 20th, 1883, at his home, Natchitoches, La., Dr. F. B. Johnson, in the seventy-eighth year of his age.

The deceased was born in South Carolina, and moved to his late home in 1836. He was a physician of rare professional and literary culture, a faithful citizen, and a noble man. He leaves a wife and several children, who have the sympathy of all of their large circle of friends. The physicians of his city have passed very appropriate and eloquent resolutions on this sad occasion.

EDITORIALS.

ITINERANT CHARLATANS AND SCAMPS.—There are no States which, a few years ago, escaped the visitations of a certain class of itinerant scamps, who, calling themselves physicians, robbed almost every community. They went to the best hotels; took the best rooms; gave public lectures; had themselves advertised in the daily papers; obtained certificates and testimonials from the clergy, the post-masters, members of Congress, newspaper editors, weak-minded men, and masculine women; and then, after robbing the community in every way possible, fled elsewhere, to repeat their iniquitous proceedings. These men, however ignorant, unprincipled and worthless, never failed to obtain, from the class of individuals named, the most perfect testimonials of their worth, scientific skill and ability; and when phyisicians abused or exposed them, such physicians, however upright and distinguished, were ridiculed and often abused for their alleged injustice and bigotry.

If State Boards of Health had done nothing more than free their States from the incursions and depredations of these itinerant charlatans and vile robbers, they would have rendered a full return for their cost and maintenance.

One of the latest illustrations of these facts is to be found in the history of Wheeling, West Va., during the present month. One of the Wheeling papers, the *Register*, thus narrates the facts: "Our readers will remember that a man styling himself 'Dr. Wm. H. Hale,' and professing to be a 'graduate of the University of Edinburgh,' Scotland, came to this city a few weeks ago, and took rooms at the New McLure house. His advent was really so brilliant that it threw ordinary itinerant quackery far into the shade. Beside flaming posters, cunningly-set hand-bills, and whole-page advertisements announcing, for six nights at the Academy of Music, lectures, both public and private, he placed in the window of Grubb's jewelry store a gold-headed cane set with diamonds and valued at the very modest sum of $3500 !—a gift, he boasted, from his distinguished and most grateful patients, and which he exhibited as a testimonial of his superior qualifications as a physician. In other words, he started out in Wheeling on a grand scale, and was in a fair way to humbug and deceive some of those who heard his lectures or read his promises of cure of their diseases, when Dr. Reeves, Secretary of the State Board of Health, called on him and demanded compliance with the law regulating the practice of medicine in West Virginia, viz., registration and the payment of fifty dollars special tax as an itinerant physician. His Edinburgh diploma, he said, was in New York City, locked up in the safe of the office of the American Exchange (whatever that may mean), and could not be produced in Wheeling in less than two days. He was, therefore, allowed two days' grace in which to produce his diploma and prove himself a legally qualified physician in West Virginia.

" At the expiration of the time given him he had paid the sheriff the fifty dollars special tax, but was still unable to show up according to law. Instead of presenting the promised reputable diploma, he offered a certificate from the clerk of the court in New York City to the effect that 'W. H. Hale is a registered physician in the State of New York,' but the said certificate did not state on what BASIS he had been so registered.

" When asked what medical school or college in New York had indorsed his diploma, he answered, 'The United States Medical College' —an institution under the ban of a recent decision of the New York Court as an illegal establishment. He then produced a diploma from the 'American Eclectic Medical College,' Cincinnati, a diploma-mill that has no existence except for the sale of diplomas, ranging in price from ten dollars to thirty dollars, and which, of course, was likewise refused recognition by the State Board of Health.

" Finding that he could no longer cover time with promises to produce a reputable diploma, he made an appeal to Dr. Reeves that the gold-headed cane in Grubb's window ought to be accepted as sufficient proof of his good character as a physician ! His next move was to pack up his traps and quietly slip away from Wheeling, and he quit the city just in time to escape arrest and, possibly, imprisonment. Soon after his flight the *News Letter* gave a brief notice of the fact and the cause which hurried him from Wheeling, and subsequent developments concerning his character and manner of operations, abundantly warrant this further publication of him."

Dr. Reeves, from his amusing experience and faithful labors, will soon be able to write up a comedy to be performed before the members of the American Medical Association, at its next meeting.

Wherever Hale comes to the surface, it will be well to give these interesting facts in his distinguished career.

Later.—He has been arrested, at Toledo, Ohio, for "circulating obscene literature," and is now in jail at that place.

INSTANTANEOUS HYDROPHOBIA.—There are so many kinds of hydrophobia commanding the services of writers, both lay and professional, so many startling announcements as to suddenness of access after long incubation, that it is a pleasure, certainly a novelty, to hear of hydrophobia without any period of incubation whatever, or instantaneous hydrophobia. The following article from the *Times* will be read with interest :

" The extraordinary madness of Mrs. Moore, Mr. Moore, and Mr. Herrick, of Snydertown, Pa., is, if true, an indication that a new and startling variety of hydrophobia is about to afflict the human race.

" On Monday night last Mr. Moore, who is a young man not hitherto addicted to hydrophobia, discovered, during a violent thunderstorm, his deceased father in the act of climbing into the bedroom window. Of the personal character and domestic habits of the late Mr. Moore the public has no knowledge, but that he must have been an undesirable father while living is evident from the fact, that his return as a ghost anxious to come in out of the rain, frightened young Mr. Moore so terribly that he ran to his mother's room and informed her of the apparition.

" Mrs. Moore, the widow of the late Mr. Moore, on hearing her son's story, glanced at her own window, and saw her deceased husband's face with his nose flattened against the pane. Instantly she went raving mad, and jumped through the window into the street below. Thereupon young Mr. Moore went mad and howled until Mr. Herrick, a neighboring farmer, came into the room to help him. Mr. Herrick does not appear to have seen any kind of ghost, but the moment he touched Mr. Moore, he in his turn went mad ; and the two began to howl in concert, to smash the furniture, and to try to tear one another in pieces. More neighbors arrived, but fortunately none of them went mad. They were therefore able to tie the two madmen and to pick up Mrs. Moore, who was so badly injured by jumping through the window that she did not need to be tied.

"The three lunatics are still as mad as ever, and what is very singular, their madness is precisely like that of the victims of hydrophobia. They bark, and foam at the mouth, and try to bite people. That they are really suffering from hydrophobia there seems to be little doubt, and it is beyond question that all three were smitten with the disease instantaneously and without the assistance of any dog. Mr. Moore and Mrs. Moore went mad by merely glancing at the ghost of the departed Mr. Moore senior, and Mr. Herrrick went mad the instant he touched Mr. Moore.

"It has hitherto been assumed that hydrophobia could be communicated only by a bite. The period of incubation has rarely been less than ten days, and in some cases has been many years. We have now a new kind of hydrophobia, which is contracted either by looking at a ghost, or by touching a person already afflicted with the disease, and the period of incubation is so small as to be inappreciable. To borrow the language of photography, hydrophobia may now be communicated by a sort of instantaneous dry-plate process. Simply glance at the ghost of a father or a husband and you grovel hand and foot in the grasp—not precisely of Belial, but of a still more uncomfortable demon. This is a discovery second to none which has been made in medical science during the present century.

"There always was something very mysterious about hydrophobia. The theory that it originated in the bite of a rabid animal was not satisfactory, for men have been bitten by mad dogs without contracting hydrophobia, while others bitten by healthy dogs, or even by Missouri girls, have gone mad. If the disease is really due to the sudden sight of an objectionable ghost climbing into a window and out of the rain, the apparently contradictory features of the mad dog theory need no longer puzzle us, and the character of the canine race is fully vindicated. Why hydrophobia is contagious in some cases, as it was in the case of Mr. Herrick, and not contagious in others—as the story just told compels us to believe—is certainly very strange, and we must wait for further discoveries before we can fully understand the disease.

"Enough, however, is now known to make it evident that our city authorities are mistaken in arresting dogs as a measure for the prevention of hydrophobia. What is needed is a ghost law requiring the arrest of all ghosts found at large, and climbing into windows during storms, and the subsequent drowning of such as are not claimed and identified by friends. Perhaps this would do something toward stamping out hydrophobia. At all events it ought to be tried."

Uneasy Rests the Head that Wears a Crown.—This is one of the old figments that time and modern research have fully exposed. "The cares of royalty" are supposed to be infinite, and "the wear and tear" of State duties absolute and cruel. Either all of this is comical and ironical in character, or the many physicians now waiting upon crowned heads enable them to bear up bravely and well against their hard and cruel lot.

The following facts show this to be true, and also that the younger martyrs have every prospect, with the aid of the court physicians, of long and distinguished life:

The Emperor of Germany is 86; the King of the Netherlands, 66; the King of Denmark, 65; Queen Victoria, 64; the King of Wurtemberg, 60; the Emperor of Brazil, 57; the King of Saxony, 55; the King of Sweden and Norway, 54; the Emperor of Austria, 52; the King of the Belgians, 48; the King of Portugal, 44; the King of Roumania, 44; the Sultan of Turkey, 40; the King of Italy, 39; the Emperor of Russia, 38; the King of Bavaria, 37; the King of the Hellenes, 37; the King of Servia, 28, and the King of Spain, 25.

Strychnine instead of Quinine.—*Madison, Wis., June 20th.*—"At eight o'clock this morning Dr. W. W. Daniells, Professor of Chemistry in the State University, took a heavy dose of what he supposed was quinine. Half an hour afterward he felt symptoms of strychnine. A hurried consultation of physicians was had. He was pumped out, and survived one spasm. He is now under the influence of opiates."—*Exchange.*

What kind of pump was it that removed a solution of strychnine, half an hour after it was swallowed? Here is evidently the long-looked-for method of saving life after strychnine poisoning, provided the name of the pump be given.

Empty Capsules.—Messrs. Dundas, Dick & Co., of this city, dealing largely in patented and copyrighted matter, are, very foolishly, endeavoring to make the public believe that Mr. F. A. Hubel and his agents, Messrs. Parke, Davis & Co., of Detroit, have pretended that they enjoy the absolute right to make and sell, that great boon to patients and physicians, empty capsules; and that had it not been for the noble and most expensive labors of Dundas, Dick & Co., this claim would have remained undisputed, and the public would have suffered accordingly in prices and material, etc.

The fact is, that Mr. Hubel and his agents have never made any such claim; and for the very simple reason that before they entered the market others were engaged in the same manufacture.

The real fact is, that Dundas, Dick & Co. have employed a discharged employé of F. A. Hubel; have used, by trespass, his machine; have been compelled to give up its use; and are now endeavoring to have it appear that they and not others have suffered and been abused.

No one controls the manufacture of capsules. Any one can make and sell them. The fact that the machine of Mr. Hubel makes a good and handsome article, and that these have deservedly a very large sale, is beyond dispute. And it is on account of these facts that competitors are so much aggrieved, so much distressed, and so much given to the broadcast distribution of circulars which are partisan in character, and not furnishing the facts at issue.

Dr. Oliver Wendell Holmes's Latest Gallantry and Sentiments.—In his speech at the Unitarian Festival in Boston on Thursday evening, Dr. Oliver Wendell Holmes said: "The Unitarian minister of to-day has a very hard task before him. It was a comparatively easy matter in the good old days to meet the demands of a congregation of unquestioning pew-holders. The old minister's horse jogged along in heavy harness, with a stout check-rein and a pair of ample blinders. The equipage and its accessories symbolized the driver in certain aspects. Not such is the attitude of the liberal preacher of to-day. The check-rein of his horse is off, the blinders are taken from his eyes; his harness is of the simplest—a light breastplate instead of a heavy collar. And the preacher himself—but I will not carry the comparison further than to say that he must hold his own head up, and keep a sharp lookout in all directions without being afraid of the most formidable-looking truth a minister ever shied at. The minister's wife must hold up his hands when they are weary; like Moses before the Amalekites, he ought to have a good brother like Aaron on one side and *Hur* on the other. It is pleasant to see that the mothers in Israel are generally disposed to help a young minister to find a fitting companion to share his labors. Helpmeets of our ministering brethren, our meetings would be as dreary without your presence as a flower garden with nothing but stalks, as a midnight sky without a star, as the Sunday coat of one of your honored husbands without a button."

The Most Prosperous Medical Journal.—Is that journal a publication which endeavors to give the best thoughts of the best men, or one which gives contributions that make the most patient and tolerant bewail the fact that they, too, like such scribblers and fools, are called by the same title?

The *Medical Brief*, of St. Louis, Mo., states that it is "now the most prosperous medical journal in the world." In order that readers may judge of the class of practitioners to whom the *Brief* owes its prosperity, as well as the value of the pabulum furnished its numerous supporters, the following article from the *Brief* is given:

(*For the Brief.*)

BRIGHT'S DISEASE.

Editor *Medical Brief*: I have *cured* twelve cases of Bright's Disease. Take one spoonful of sulphur, one of ginger, one of black snake root, one of cinders or anvil dust, one of coriander seed, and mix in honey, given in ten grain doses five times a day. If it don't run the water out too much; if so, stop and give less; at the same time give gamboge. Give ipecac and bluemass till the mouth and gums grit, and bathe the feet and legs in mullen.

J. H. Holden, M.D., State Line, Miss.

Mortification over False Diagnosis.—One of the most hale and prominent candidates for the next Vice-Presidency of the United States is Senator Hendricks, of Indiana. It is not many months since that his attending and consulting physicians became very prominent, or rather notorious, as having given the Senator but a day or two in which to make preparations for shuffling off this mortal coil. The distinguished patient suffered from *phlegmonous erysipelas*, which had been treated, unknown to those in consultation, with a charcoal poultice. The case was pronounced to be one of *malignant gangrene*, and one to be rapidly fatal; but the only element of fatality so far in it has been as to the abilityof those called upon for a diagnosis.

Apology.—In consequence of an unexpected delay in preparing the Index for Volume XXXV, the issue of Number 27, June 30th, has been delayed.

To Physicians.—*A number of copies of each issue of this Journal are sent to certain physicians whose names have been forwarded to the Journal by subscribers and friends. It is asked that such copies be carefully examined, and if the Journal be deemed worthy of support, that this be given either at once or at any period more convenient. Specimen copies of the Journal will be sent to any addresses which subscribers may be kind enough to furnish.*—Editor.

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COUNT RUMFORD

TO PHYSICIANS.

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GAILLARD'S MEDICAL JOURNAL

AND

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ORIGINAL ARTICLES.

Article I.—The Nature of the Syphilitic Virus and the Way in which it Acts. By J. L. Milton, Senior Surgeon to St. John's Hospital for Diseases of the Skin, London, England.

The object of the following remarks is to draw the attention of my readers to several points in the pathology of syphilis, the accepted views on which, though widely received, appear to me in a highly unsatisfactory state. The fact of their extensive circulation, almost without a dissentient voice, will, I trust, excuse me from the necessity for quoting authority in support of each separate proposition, a proceeding which, indeed, would be out of place in a paper intended to be strictly practical.

Syphilis Compared with Exanthemata.—Within a recent period the course of this disease has been likened to that of eruptive fever,* and the idea seems to have been seized upon as new, and disseminated without a solitary protest. It is, however, not new to begin with. Linnæus placed syphilis among the eruptive fevers, and Carmichael pointed out † the resemblance which papular syphilis bears to an exanthem. But the fact is that all morbid poisons have, in their operation upon the human system, a strong likeness, there being many features in their effects which they share in common; and whether they glide unseen through some yet undetected portal as in the case of measles, or break bodily through the gate of life as happens in inoculation, or, to extend the argument, even beyond morbid poisons, the bite of a serpent, they are distinguished, one and all, by inducing a more or less sudden and prolonged reaction of the whole frame peculiar to each. In this respect they certainly resemble one another, but only in this much, and not more than they resemble poisonous medicines, the introduction of which into the system is followed by effects as grave, specific and prolonged as their own.

With all submission to those who can trace an analogy between syphilis and an exanthem, I must be permitted to say that it is a comparison without a likeness. We know that absolute material contact is essential to the transmission of syphilis, and that it is not conveyed by the air. We do not know what part of the system is assailed by the materies morbi of the exanthemata, though there is a good deal of reason for thinking that it is the upper part of the gastro-pulmonary tract; we do know, however, that the infecting material is air-borne, and there is ground to conclude that at least in some of the exanthemata, *e.g.*, scarlatina, it occasionally springs up *de novo*, which never holds good of syphilis. The exanthem, once begun, will run its course; true, unmistakable syphilis may begin and end with chancre.

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* Report of the Committee on Venereal Diseases, 1868, p. 284.

† An Essay on Venereal Diseases, 1825, p. 116.

If we turn to the second period we meet with still greater contradictions. In the rising stage the blood of the syphilitic is, perhaps, always inoculable, at any rate, such a quality has been fairly well established; no like fact has been so clearly shown as respects any of the exanthemata, and so far as I know inoculation has only been performed with negative results in scarlatina. The after effects of chancre are a series of depositive inflammations, exceptionally complicated by suppuration, invading, under what is fundamentally the same form, every tissue susceptible of their influence, and differing so widely from anything seen after measles or small-pox, that it must require no slight stretch of the imagination to find in the latter the analogues of the gumma and cicatricial streak. The specific career of the exanthem begins with the fever and desquamation, which no art can shorten by an hour; the curable period of syphilis may be deferred for years. In the one the severity of the febrile symptoms usually bears a clear and definite relation to the extent of eruption and the degree of danger incurred; in the other the prodromata may be absent, or so slight as to escape notice, and yet the patient may suffer all the ills which this disease can bring with it. Under such circumstances it appears to me that the decision to arrive at is, that syphilis only resembles itself, and that the cause of true knowledge is not served by such strained comparisons.

The statement that the after effects of chancre are a series of depositive inflammations, only occasionally complicated by suppuration, may appear opposed to fact, and this peculiar and characteristic feature of syphilis, following so long after its supposed exanthematic fever, will be contested on the ground that such symptoms as syphilitic ecthyma, impetigo rodens, and syphilitic fungus of the testicle are evidently suppurative. But the argument is only of seeming force. What is meant is, that in by far the larger proportion of typical cases of syphilis, the characteristic process, of which these symptoms are sometimes in the later stage run their course without the formation of pus; in other words, I consider this an epiphenomenon, occasionally engrafted on the papule and tertiary deposit, and though fungus of the testicle has been spoken of as a purely suppurative process, I have seen reason to think to the contrary. In a communication to the Harveian Society, containing the particulars of two cases, I pointed out that the course of the affection seems to be as follows: The tunica albuginea, tunica vaginalis and the tissues of the scrotum become agglutinated together, at a point opposite the most prominent part of the affected testicle, by a deposit of unhealthy lymph; irritation is thereby set up in the yellow elastic and muscular fibres of the scrotum, just as it is in the cutis of the leg in some painful forms of ulcer; under the influence of this action the scrotum is drawn backward and away from the point attacked, absorption being perhaps stimulated at the same time, and an opening is thus formed through which the testicle protrudes. What suppuration there is seems to be purely secondary.

Compared to Poisoned Wounds.—The similitude here is perhaps better calculated to hold its ground; indeed, we know that, except in the case of hereditary disease, the chancre from which all syphilis is considered to start, is a poisoned wound. But the differences are too vast to make it worth while to pursue the comparison. To confine myself to one instance, nothing like the descent of syphilis from the parents meets us in the case of poisoned wounds, with which exception we may, I think, close this part of the subject and pass on to more important topics; indeed, I would not have touched upon it at all, were it not that it has on several occasions been brought so prominently before the world as to make silence impossible.

Is Secondary Syphilis due to Blood-Poison?—How any one can see, in the phenomena of this disease, even an approach to proof that they are due to a blood-poison, is to me incomprehensible. But so it is. In works on syphilis we continually find the fact stated thus, and generally, when a paper on this disease, especially if it refer to treatment, is read before a medical society, something is said about the elimination of the virus. On the last two occasions of this kind when I was present, both authors spoke of the process as if there could not be a doubt about it, and indeed I myself have never yet come upon any attempt to offer evidence, though one might have thought this was the first necessity of existence for a theory. Nor have I been more successful in my endeavors to find anything like a definition of the nature of the syphilitic virus, or any trace of an idea whether it is solid or liquid, visible or not. If, therefore, I have in any way misrepresented the views of my contemporaries, it has been done most unintentionally, and the mistake is to be attributed solely to the absence of the information necessary to form an accurate opinion.

Results of Inoculation considered as Proof of a Blood-Poison.—But it will be said that the lancet proves beyond question the existence of a virus in the blood. Inoculation, even transfusion of the blood of a healthy person, has no effect in this way; the insertion of a mere drop of serum from the system of a person laboring under syphilis suffices to introduce this disease. What, then, can constitute the difference, unless it be the presence in the latter of a poison. The argument of the blood possessing such a quality is in itself valid enough. No one now contests the power of this fluid, when inoculated from the syphilitic, to convey the disease; even the great Hunter himself, who once so strongly denied* this quality to the blood of a "pocky person," would find very few proselytes in the present day. But valid or not, it has essentially nothing to do with the question whether constitutional syphilis is dependent on the presence of a virus in the circulating fluid, for it is only an attendant phenomenon, restricted to a solitary and comparatively brief stage of the disease.

Absorption from the Chancre.—But how is even this short period of contamination to be explained? The question is not an easy one to answer. I leave to one side all such strange conjectures as that of Hunter, who taught that the venereal matter is absorbed from the local complaints and contaminates the system but not venereally, which I suppose means that such absorption produces complaints of some unknown kind, but, at any rate, differing from syphilis; likewise, I leave on one side all array of authors who have espoused this or that particular view, and proceed straight to the substance of the difficulty, the question of *how the venereal virus is absorbed from the primary sore and what this virus is.*

By the lymphatic vessels to the nearest gland seems at the first blush the most natural solution of the starting point in the first part of the question; at any rate, authorities maintain that there is a transmission of virus to this spot. But so far from bringing us nearer the goal of our inquiries, it leaves us face to face with a difficulty which cannot be put on one side, and this is that some authorities equally believe this absorption to end here. For instance, Mr. Lee, who has so carfeully studied these matters, contests† the passage of the poison beyond the gland. From the chancre to this it can be followed up, but "beyond this the poison can no longer be traced," and he considers that at the gland "some wonderful change is produced." This leaving of the passage is, however, restricted to the bubo of the infecting sore, for in suppurating bubo some particles of the poison may pass the lymphatic gland, so that the process of occlusion is the most effectual where, supposing the lymphatics effected absorption, there would be the least hindrance. He also points out* that though, when syphilis is acquired by means of a wound on the finger, a bubo may form on the inside of the elbow, there is nothing to be felt in the axilla, the most common place for glands to be affected by absorption; while the lymphatic gland on the inside of the biceps, directly on the path of absorption from a chancre on the finger, has been pierced, and thus on the spot auto-inoculated without result, an experiment which proves little, but does not tell in favor of absorption. Mr. Lee, then, I presume, pronounces for absorption by the veins, and according to Auspitz † the generally accepted theory of infection is, that the poison passes direct into the mass of the blood, from the site of the local infection; indeed, when the lymphatics are rejected, there remains no way known to us but the veins, which I suppose we are to consider as the agents, the lymphatic gland being simply the closed end of a divergent cul-de-sac.

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* A Treatise on the Venereal Disease, 1796, p. 292.

† Pathological and Surgical Observations, 1854, p. 187; Syphilitic and Vaccino-Syphilitic Inoculations, 1863, p. 34.

But the presence of an inoculable virus at the site of the local sore, and that of another inoculable virus at a later period in the blood, are the first and last links in the chain of an argument of which the middle is wanting. The hypothesis of venous absorption would be conveniently and soldily established were the missing part once found; but this has yet to be done, for while there is no evidence showing that the blood between the chancre and the general system, that is to say in the veins leading immediately from the site of the chancre, is contaminated before the frame is affected, there is a good deal in favor of the assumption that at the very time a primary sore is supposed to be poisoning every tissue, the blood at this very part is free from infecting power. A chancre has been cut bodily out, the blood of the cut surface inoculated on another person without any result to the latter, and yet secondary syphilis has appeared on the patient who had the chancre.‡ When, then, we bear in mind that inoculation of the blood in a later stage of the disease has so often succeeded, it seems difficult to get over the conclusion that, were any such process as absorption from the chancre going on, the blood at the early stage should be contagious in the highest degree.

Besides there are other facts which seem to offer insurmountable obstacles to the theory of absorption by the veins. It has been distinctly stated that chancre forms without breach of surface, and though perhaps some of the conclusions on this head have been drawn rather hastily, I think there can scarcely be a doubt, that such an occurrence has taken place when there was no solution of continuity in the capillary veins, a condition which seems to me indispensable for venous absorption of a virus-laden fluid. And it must be regarded as showing a strange want of harmony between theory and practice, that medical men do here every day of life what they ought, according to hypothesis, sedulously to abstain from; for supposing either route, that by the veins or that of the lymphatics, lay open for the purposes of absorption, the practice of giving such medicines as mercury and iodide of potassium, which more than all others hasten the process, must, so long as there is any hardness remaining at the site of the chancre, be culpable.

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* Pathological and Surgical Observations.

† Die Lehre von Syphilitischen Contagium, 1866, S. 373.

‡ Nouveau Traité des Maladies Vénériennes. Par le Docteur Melchior Robert, 1861, p. 320.

Shape and Nature of the absorbed Poison.—It is calculated to give a strong impression of the laxity with which this subject has been handled, when I state that, of all the authors who have spoken of the absorption of the virus, not one has attempted to define the vehicle in which it resides—that is to say, the shape it assumes. However, there being, so far as I know, only three forms in which it can exist, the difficulty created by this vagueness may, perhaps, be got over by taking these three separately, so as to give the question a more concrete and tangible shape. These are 1. In the pus of the chancre when suppurating. 2. The serum or lymph effused into the substance or callus of the chancre. 3. Some unknown and invisible form peculiar to the virus, a medium, if the reader prefer the term, in which it abides as a self-existent body, a distinct materies morbi mingling with the pus, serum or blood, as the case may be.

Absorption of Chancre-Pus.—Those who have had the misfortune to contract syphilis may be thankful that this, at any rate, is not the process which Nature chooses for avenging her outraged laws, and that it is an impossibility unless the pus were beaten down into a homogeneous fluid; for judging from what happens when pus is really introduced into veins, it would be the more serious affair of the two. It has been shown that the insertion of even a small quantity speedily brings on alarming oppression and anxiety, great palpitation, and suppuration of an asthenic kind; and that these symptoms are generally serious in proportion as the pus from which the supply is drawn has been quickly formed. Now, in some forms of chancre this condition undoubtedly obtains: the pus is generated quickly enough, and in addition to its venereal character, it is at times of a bad quality. Consequently, if absorption were a necessary step, and if it selected the pus to operate on, we should necessarily sometimes meet with the symptoms just mentioned, particularly in the case of a sore suppurating profusely and yet succeeded by constitutional disease.

That men should see in the symptoms resulting from the introduction of pus into a vein, a step in the path of elimination, should regard it as part of a creative process, surprises me as much as if they were to insist that in syphilis the first lesion, the first inoculation of the contaminating matter, is in itself a beneficent and curative process. The initial ulcer and the supposed absorption from it must in this disease be equally results of exposure to danger, and it is absolutely stultifying Nature to imagine the necessity for such a roundabout, destructive, and, where art does not intervene, often fruitless process, when if there had been any intention to guard the frame against danger, it could so easily have been done at the first stage. Yet very able men have thought otherwise. Sir Thomas Watson says:* "These last (profuse sweats and copious unnatural discharges from the bowels) have been noticed in animals soon after the introduction of pus or of fœtid matter into the veins. Nature seems to attempt the elimination of the poison in this way, and when the quantity of pus has been small, the attempt is often successful."

The point involved here is so important and so inextricably mixed up with the whole theory of syphilitic contamination, for I assume that it is unnecessary to point out how strongly the above quotation bears upon the great fundamental dogma of venereal pathology and therapeutics, that it deserves thorough inquiry. As the above eminent author puts the case, absorption of pus from a chancre would be a very natural process, because the first stage, that of infection, having been passed through, only one method is left open to the system for conveying off the poison and freeing the body from its mischievous effects. This method I need scarcely say is the absorption-elimination process, which, had it been the work of man, would have been pronounced an inconceivable blunder. For if the plan in all its integrity was explained to a lay patient of ordinary capacity, if he were made to understand that the method of treatment proposed for his case was to effect the absorption into his system of a poisonous fluid, which could only be got rid of by violent even fatal efforts, not unfrequently attended by irreparable mutilation, he would be apt to think the remedy worse than the disease, and to stipulate that his medical attendant should hit upon some method more likely to recommend itself to a sane being ; but what would be folly in human measures puts on another look when it assists us to comprehend how a virus is taken up. However, with all submission, I would suggest that such evidence, as we possess, rather goes to show that Nature is guiltless of the blunder ascribed to her ; that it exists only in human imagination ; and that it seems no part of creation's plan to protect man altogether against disease any more than against certain degrees of injury, perhaps, however, least of all against the results of pathological experiments.

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* Principles and Practice of Physic, 1857, vol. 2, p. 346.

Have those gentlemen, who explain the course of syphilis by a hypothesis of absorption and elimination, taken into consideration the dilemma in which it must land them if pushed to its legitimate goal ? Nature seems to work upon a uniform plan, and when she has an evident purpose in hand, such, for instance, as the multiplication of the species and the death of each individual member of it, is not to be balked by the strongest will or the greatest genius. How comes it, then, that a power so watchful when syphilitic virus is taken up or pus injected into a vein, is so inconsistent as not to attempt the expulsion of the deadliest doses of sedatives, so easily foiled that the most stupid malignity can outwit her ? She makes no attempt to extend the succor of elimination to these cases, at any rate in an effective shape, though we might think it as needful in the one as in the other. It does not seem to have struck Sir Thomas Watson, that possibly it is the natural action of an irritant poison or of pus to effect mischief and alarm the system at the same time, while that of a sedative is restricted to the former ; and that what were taken for attempts at elimination *were not of this miraculous nature at all*, but reactions only casually attended by this process, and *having no more necessary connection with it than any other reflex action would have*, such, for instance, as fainting at the sight of a disagreeable object.

Absorption of Chancre-Serum.—Seeing that such serious consequences may attend the transit of pus by the veins, and that not a particle of chancre pus is supposed to go beyond the lymphatic gland, we must next consider the possibility of the tainted serum being taken up either by the lymphatics or capillaries, and this contingency must, I think, be equally rejected. We know that serum, whether pure or supposed to be laden with virus, is constantly being removed, but that it here contains the materials of disease, and is, without undergoing change, taken up into the veins, is open to more than doubt, whether we regard the serum which collects on the surface of the sore or that which circulates through the induration. On several occasions the latter has been accidentally, the former purposely, inoculated, and it seems impossible that such an experiment as that just detailed could fail, were the serum which the veins had to transport laden with infecting matter. Lastly, one very strong objection to any such hypothesis is, that if the locally contaminated serum were really the agent, constitutional disease would always appear first in the vicinity of the chancre and would spread in the track of the veins leading from it ; whereas we know that what really happens is a general and symmetrical disturbance, in this characteristic, at least, the analogue of what results from a shock or morbid impression, though of course diffused over a longer space of time.

The Poison as a Self-existent Fluid.—I presume it will not be necessary to bring forward any evidence tending to overthrow this hypothesis, inasmuch as it has, to the best of my knowledge, been abandoned or rejected by all but two authors, and as nothing can be detected chemically or microscopically in either the pus of the soft sore, or in the deposited lymph, which causes the hardness of the syphilis, that can be identified as a poison, the presence of this as an inbreeding element in the serum or pus must be looked upon as not poison. According to one well-known author, if the syphilitic virus possess no "anatomical," we can invest it with "physiological attributes." I hope I am not guilty of disrespect in saying that this ingenious way of putting the question does not quite meet the difficulty ; it means either that we must suppose some unknown constituent part of the chancre has, under the influence of contamination, acquired an infecting quality, or that if the syphilitic virus possess no real existence we must invent one for it. Besides if the fluid, to which these "attributes" are communicated, be not absorbed, how can they be taken up any more than the quality of hardness can be abstracted from the diamond and that of gravity from matter, absorbed into fluids ?

One of the authors I have spoken of as clinging to the theory of a self-existent virus in the blood, was the late Dr. Morgan. In the absence of anything like proof he suggested* that we should fall back upon hope, and he was sanguine about our one day getting at the secret of what syphilis is. The microscope which had done so much was to do still more when further improved, and then we might reasonably expect to discover that "the morbific and contagious element of this disease is due to certain very minute particles which exist in the circulatory fluids and permeate the entire body." It can, I think, be no reflection on Dr. Morgan's memory to say that he took a highly buoyant view of the question and made rather light of the difficulties which beset its solution ; perhaps he was cheered on by the exquisite picture which his great countryman drew of the power of hope to emit, "like the glimmering taper's light," a ray brighter in proportion as the gloom darkens round our path. But though the power of imagination, which can thus prophetically discern the goal of truth at the very time when the instrument relied on seems to be leaving us in the lurch, is no doubt an inexhaustible mine of support to the possessor, those who want a basis of probability will condemn it as an *ignis fatuus*. As to the other writer, his views are so mixed up with the question of the fructification of the virus, that it will be better to take them later on.

How does the Poison Act when in the Blood ?—In the year 1500 Torella, rejecting the origin of the syphilitic virus from the brain and liver, described it as multiplying itself in the human system, and thus infecting all parts of the body. I do not see that modern research has improved much on this formula ; indeed, one of the latest descriptions of the process, met with in the course of my reading, repeats it in almost identical terms. It is that of Professor Miller, of Edinburgh. "The syphilitic virus," he says,† "enters the system through the circulation, and when it has got into the system a second zymotic process is established." This statement, put forward by an eminent teacher, in a justly renowned university, is as entirely unaccompanied by proof as that of Torella. It is self-evident that a thing which multiplies must have an existence, and if Professor Miller had told us what form this existence takes on, we should have had some idea of what we were dealing with. But nothing in the shape of definition is attempted, and we must take the hypothesis as it is laid before us, without too close an analysis. He is, however, only the exponent of a system. He follows a path trodden by many famous men and which his successors seem equally content to tread. True, his language is a little more scientific than that of the old writer, for he tells us that the increase is effected by the zymotic process, but it conducts quite as surely to obscurity and perhaps to error. For if zymotic have any meaning at all, it means multiplication by ferment, and if any such process were set up in the circulating system, it would, as we possess no means of checking it, continue till it had destroyed the blood, and thus every person affected with constitutional syphilis would speedily perish.

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* Practical Lessons on the Contagious Diseases, 1872, p. 2.

† The Practice of Surgery, 1852, p. 487.

It is obvious that such a doctrine lives only on sufferance, and would not be tolerated in any branch of research putting forward a claim to a scientific character, except medicine. Were a theory presented in this shape to one of the learned societies, say, merely for instance sake, a memoir on a new mode of genesis in the planaria or annelids, announcing, without any attempt to bring forward evidence, that they multiplied by a zymotic process the matter would be very summarily dealt with. It will, perhaps, be argued that we cannot look into the circulating blood as we can into the reproductive organs of plants and animals ; to which the reply must be that what stands in the way of an author proving his theory justifies, in exact proportion, reserve on the part of the reader about accepting it.

We have now to consider the view put forward by Dr. Bradley, already spoken of as being intimately mixed up with the question of multiplication of the virus. According to him absorption is threatened with that fate which sooner or later overtakes all theories. A younger and more vigorous rival is in the field, and the once dominant opinion is already overshadowed. The syphilitic virus still enters the blood, multiplies there, and is in due time eliminated, but the process is never very different. The author not merely shows that constitutional syphilis depends upon the presence of a virus in the blood, but at what stage of the intrusion contamination takes place ; he points out the route taken by the invading poison and the mode by which the latter gains access to the system and multiplies there.

The author's theory* is based first of all on the suggestion that Lostorfer's corpuscles may be peculiar to syphilis ; we have no right to deny their individual existence, or their particular connection with syphilis, because we find them in other diseases and even in a state of health, for this means trusting to the microscope, which is clearly incompetent to decide the question, many cells appearing the same under it, though they have a different life history. Consequently, he proposes to assume the existence of such a cell, and to suppose that it partakes of the nature of bacteria. The latter multiply rapidly, " one organism producing some millions like itself in the course of twenty-four hours by fissiparous generation ;" there is, accordingly, no difficulty in understanding that the syphilitic virus may do the same. The virus being deposited on the skin first of all fights its way into the lymphatics through a barrier of necrosis, which, I should say, principally served to show another futility of the opposing process, seeing that it never by any chance succeeds in warding off contamination. The syphilitic cells, multiplying after the fashion of bacteria, would pass along the "lymph paths" to the nearest gland, when a temporary stoppage would take place, owing to the poison becoming entangled in the parenchymatous meshes of the gland. From this place of durance they would, however, escape by the exercise of amœboid movements, and then start on their journey for the next gland. Thus, in process of time, they would be gradually and naturally conducted to the tonsils, "which are the special conduits of the poison," some few, however, sailing into the blood on their way and giving rise to syphilitic skin diseases, there "being so many efforts on the part of the blood vascular system to eliminate the poison." Eventually the blood itself becomes infected, as is shown by the results of inoculation.*

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* Medical Press and Circular, 1877, vol. 2, p. 23, etc.

Considering that the only evidence showing the existence of Lostorfer's cells is afforded by the microscope, the starting point of the theory makes rather a convenience of the instrument; we may trust it implicitly, so long as it harmonizes with the doctrine, but when the two clash, its revelations are to be doubted. The relation of the syphilitic germs to bacteria is treated in the same way, seeing that if they really partook of the nature of the latter, they would multiply after a like fashion, and in that case no human being would be alive at the end of the fourth day after the first syphilitic germ had entered his system. The reader may think this exaggeration, but it is strictly true; for supposing we take the lowest estimate of "some," and say that two millions of organisms would be in existence at the end of the first day, then this number would be augmented to 8,000,000,000,000,000,000, by the close of the third day, making it very doubtful whether blood so charged would, even at this early date, pass through the capillaries. It is to be remembered that this is the produce of a single germ, not of "a few," and that the total must be multiplied to an almost incalculable extent, certainly one demanding the powers of algebra, to include the fourth day. Anatomy fares quite as badly as the microscope and bacteria. It teaches that the lymphatics of the lower extremities empty themselves into the lower end of the thoracic duct, and that this discharges its contents into the venous system at the external angle formed by the junction of the subclavian and internal jugular; the theory teaches that the lymph of a syphilitic person passes, by a hitherto undiscovered route, to the tonsils without entering the blood vessels at all. Such is the most modern improvement upon absorption and zymosis, as laid down by a gentleman who contributes regularly to the medical journals, has upheld the unity of syphilis, is surgeon to a large institution, and also is lecturer on surgery.

How is the Poison Extruded from the System?—For argument's sake, I will suppose that all these difficulties are got over, and that the virus, having reached the circulating system, is multiplying there. Being so far advanced on our way, the next question which meets us is by what agency this process, when once set up, is ever stopped and its effects are got rid of; in other words, how is the poison expelled from the blood? Practically there is no answer to the first part of the question. Even those who are so familiar with the secrets of Nature, that they can read her mysteries offhand, are silent here, though it may be that they have never turned their attention to the subject, or even think it beneath their notice; however, as it is no part of my task to pursue this problem, I leave the matter where I find it. Extrusion is a mere favorite subject, and is almost without exception spoken of as a process demonstrated beyond impeachment. Secondary disease is Nature's method of completing what seems a very superfluous chain of actions, and man's duty is to second her efforts by stimulating the emunctories.

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* Medical Press and Circular, 1877, vol. 2, p. 100.

Dr. Durkee, speaking of syphilitic diseases of the skin, says:* "At whatever period these eruptions may present themselves, their manifestation is to be interpreted as an effort on the part of the eliminating powers of the system to get rid of a poisonous element, which interferes with its well-being. The disease is in the blood." I need scarcely say that Dr. Durkee's exposition represents a widely spread opinion, and it will be unnecessary to waste the reader's time in attempting to show that the doctrine of this process being effected by the emunctories is an old-established creed, not at all likely to go out of fashion. Within a very recent date "the expulsion of the syphilitic virus by the emunctories" has been spoken of, in almost identically the same terms, as an accepted, and judging from the way in which it is put forward, indisputable profession of faith, by a physician holding a well-known special department, a college lecturer, a hospital surgeon, and the president of a medical society.

Dr. Adams, explaining Hunter's doctrine, says† that the matter absorbed from either chancre or gonorrhœa "circulates in the blood and is thrown out by the common emunctories," which, I suppose, means all the ducts opening upon the skin, intestines, and bladder. Modern research has narrowed the field of action. It rejects absorption from gonorrhœa, and should equally reject the circulation of "matter" in the blood, as I presume this means pus; it also ignores, as I understand it, elimination by the intestines. But it does not tell us any more clearly than the old doctrine, in what shape the virus is thrown out. The emunctories of the skin being in plain English the sebaceous and sweat ducts, we must conclude that the poison escapes in an invisible and innoxious form, as their secretions cannot convey syphilis, and in most of the secondary eruptions these outlets are rather anatomically than pathologically involved, the disease consisting in hypertrophy and injection of the papillæ, deposit of cell matter, and secretion, from the derma, of a crust which takes the place of the cuticle which has been shed.

If absorption be a process which, to the unassisted human judgment, must necessarily seem part of a most roundabout method of freeing the system from a destructive assailant whose intrusion it courts and assists, inasmuch as a harmless outlet, the chancre itself stands always ready for throwing off safely all the virus that is secreted, it can scarcely be said that elimination improves upon the design. For, if left to itself, it would in a great many instances not discharge the virus at all, and scarcely ever without inducing great suffering, often followed by repulsive disfigurement, the most singular feature, perhaps, of all being that it is continued with increasing severity after the necessity for it has ceased to exist. In the tertiary stage syphilis is no longer transmitted by contact, sexual intercourse, impregnation (so far at least as the father is concerned) or inoculation. By some writers it is assumed,‡ and apparently with justice, that the virus has now died out; yet at this very time the efforts of the system at elimination are augmented rather than lessened. There is often more discharge from a patch of tertiary ulceration than there had been in the whole course of the disease; and still this, instead of freeing the patient from the burden which is wearing him down, is, if unrelieved by art, certain to go on from bad to worse till it ends in fatal exhaustion, a fact, however, in which the believers in elimination appear to see no difficulty.

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* Treatise on Gonorrhœa and Syphilis, 1864, p. 273.

† Observations on Morbid Poisons, 1807, p. 159.

‡ Report of Committee on Venereal Disease, p. 235.

Supposing Nature really had designed papular eruptions to be her method of throwing out the virus, it is simply incomprehensible that she should absorb them all again *without effecting her purpose*, and most injudicious of man to aid her here also, as far as he can, by administering such medicines as mercury and iodide of potassium, which so evidently facilitate the taking up into the system of the material essence of those very papules intended to act as safety valves. If the results of absorbing the virus from one small chancre be such an overloading of the blood, what in the name of reason must be the state of this fluid when it has received the contents of fifty lepra patches, each charged with virus ?

For such reasons it appears to me that the doctrine of absorption must some day or other fall, and that the contraction of its area, already spoken of, prognosticates, by the death of a part, the doom which awaits the whole theory. The plea that a specific eruption argues a specific cause as virus in the blood is inadmissible. Specific affections are set up in the system, distinct and serious affections of the blood are induced, when there is no question of such agency. Many instances to this effect might be quoted, but I suppose it will be sufficient to point to gonorrhœal rheumatism and gonorrhœal iritis as examples of the kind, and distant purulent deposits from the passage of a bougie as showing the latter. No doubt, if we are to be bound by the example of some authors, it would be more in the spirit of the age to conclude on the side of absorption, and frame a new theory to account for it. The task seems an easy one in some hands. By the aid of conjecture and suggestions as to how the conjecture can be worked ; of judicious selection of evidence and sufficiently free use of modern scientific terms, an hypothesis can always be found equal to the exigencies of the case ; and should there happen to be any difficulties in the way, of too stubborn a nature to admit of their being ignored, the inventor of the theory has only to express his conviction that, on farther examination, they will be found not to militate against it, and they may be looked upon as solved or shelved.

Nor can syphilitic anæmia, any more than the poison in the blood, be invoked on behalf of absorption. It certainly shows morbid alteration of the blood, but, as we know, by the chlorosis of girls, that this may occur to a much greater extent without the pretence of a virus having entered the system, and that, on the other hand, secondary disease happens without anæmia, we may conclude that syphilis is no more necessary to blood deterioration than this is to syphilis. And while observation declares against the doctrine from the common-sense point of view, experimental therapeutics decide in the same direction ; for the two medicines, which seem to cure syphilis with the greatest certainty, mercury and the iodide of potassium, act quite differently on the blood,* mercury accelerating the destruction of the blood globules which the syphilis has set up, and the iodide checking or not facilitating this process. They agree, however, in acting contrary to the theory, for quicksilver which, by hypothesis, ought to do the most mischief, is really more curative in the anæmic stage than the iodide, while the latter which, on the same showing, ought to be the best suited to this period, is almost inert. Lastly, if the deglobulizing power of mercury be corrected by associating it with iron, the syphilis is safer, as I have been able to observe, supposing it to be acted on at all, decidedly exasperated and its outbreak hastened.

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* Robert, op. citat., p. 709.

How does Mercury get at the Poison in the Blood?—Hunter and Pearson clearly thought that a great deal of the mercury rubbed upon the skin was taken up bodily; how it became separated from the fatty matter, or whether this was absorbed along with it, we are not told. Mr. Lee, in a certain measure, expresses this opinion, for he considers* that mercury is absorbed without breach of surface, and makes its way along the lymphatics, so that it selects a different route from the poison. A more scientific and more favorite doctrine than that of Hunter and Pearson is, that some of the mercury is dissolved and circulates in the blood under the shape of a chloro-albuminate. There seems scarcely a doubt that this mineral can be detected in the blood. So far as 1835, at least, Mr. Judd experimented in this direction with blue pill and iodide of potassium, with the result of finding mercury in the blood and iodide in both the serum and crassamentum.† Other authors have so far confirmed his statements that we may admit as fairly certain the presence of the mercury,‡ while there is other evidence § that mercury has sometimes got into the system and intolerably large quantities, too, by a route about which we are as yet in the dark.

But everything points to the inference that all this is beside the question. The mercury is only found in the veins in infinitesimal quantities, and we know that larger amounts have over and over again been thrown bodily in solution into the system, without ever curing some bad cases of syphilis. If the virus enters by the capillaries, and the antidote by the lymphatics, they are not likely to join company on the way, and should they accidentally cross each other's path, they will not abide long together. Quicksilver in the metallic form cannot traverse the capillaries, and it is not easy to understand how such a compound as chloro-albuminate can do so in bulk. The relation between possible absorption and curative powers is of a highly unsatisfactory nature as regards the hypothesis. Absorption seems to be almost entirely dependent for its extent upon the quantity of a medicine which is exhibited, the length of time that it is used, and the form in which it is employed; mercury often acts very beneficially under the very conditions which negative these requisites, as, for instance, when frictions with blue ointment are rapidly repeated, and fails when we might fairly expect it to be absorbed, as when administered internally for a long time, or when injected under the skin; for whatever effect these modes may have in stilling pain and relieving local symptoms, properties I in no way contest, their powers of effecting a radical cure is very limited in the more serious class of cases.

If we may judge from some experiments on the lower animals, it is fortunate for patients subjected to inunction, that no such process as absorption takes place, or that it takes place to a very moderate extent. Cruveillier repeatedly‖ introduced mercury into the shaft of the femur in the dog. When the quantity was considerable death took place in a few days, and the metal was found thickly strewn through the lungs; when the quantity was small, the animals lived longer, and little abscesses, each enclosing a particle of mercury, were found in the same organs. It would seem, then, that in the dog, in whom absorption is so strong, mercury, when forcibly introduced into the system, is carried so far by the blood-vessels; and though it is not very safe to draw conclusions in pathology, from experiments on the lower animals, we may, perhaps, assume, that much the same thing happens in man. Were the opinions, then, of Hunter and Pearson well founded, every patient subjected to free inunction would have a host of little abscesses in his lungs. In Hunter's day the system was often so flooded with mercury that Swediaur speaks* of seventeen ounces having been necessary to effect a cure; the reader's imagination will, therefore, easily supply an idea of what state the patient's lungs must have been in with a little abscess round each globule of mercury, long before the tenth part of such an amount had been absorbed.

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* Lectures on Syphilis, p. 290.

† A Practical Treatise on Urethritis and Syphilis, 1836, p. 565–6.

‡ A Treatise on Syphilis, by Walter J. Coulson, 1869, p. 313.

§ Traité des Affections de la Peau, par P. J. O. Leon Basserean, 1852, p. 519.

‖ Watson, op. citat., vol. 2, p. 345.

In days gone by, sores were constantly dressed with blue ointment, yet the mercury, instead of being carried into the venous system by the attraction which was so irresistibly transporting the virus thither, did not even penetrate so far into the chancre as to neutralize the poison. We know, too, that the most vigorous, most unsparing use of mercury, before there is even a sign that the increase of the virus within the system has begun to show itself, so often fails to either arrest or eliminate this virus, that many practitioners have come to doubt the utility of employing it at this stage, even in cases of typical infecting sore; and though some people see no contradiction to this theory in this inability of quicksilver to do, in the nascent stage of the disease, what it effects with fair certainty in a developed period, and explain it by some figment about curing the visible symptoms, but not the disposition, yet the objection seems to to me fatal; if it possess any weight as an argument, its natural operation must be the reducing of syphilis to the class of disorders, in which a long continued train of action is set up by an abnormal impression on the frame at the point of contact, just as a prolonged course of symptoms may be induced by a violent fright or a great shock.

How does the Mercury Act upon the Virus?—Swediaur talks† of the mercury destroying the virus in the bubo. As he does not specify the method, we can only assume that this happens by some such process as combustion or solution, or as a wart might be destroyed by a strong acid; directly after this, however, we find him comparing mercury to a hero in the hour of victory, chasing the virus like a defeated foe. The strength of the expression on the one hand and the figurative language employed on the other would seem out of place nowadays; but critical readers might feel inclined to doubt whether modern physiology is so very different in point of substance from that of Swediaur, and whether the "elimination of the virus," looking at it in its essence and disregarding the ever-changing fashions of speech, is not the same thing as that of the general charging the enemy sword in hand.

But men seem convinced that the modern formula is to be abided by; I will, therefore, take the doctrine as they express it, and proceed to examine it, restricting the discussion, however, to one or two illustrations. Mr. Henry Lee then says‡ that "Nature attempts to eliminate the poison" through the skin, and that "a free secretion from the skin assists the action which Nature has already commenced." One of the advantages of the calomel bath, he considers, is that it encourages this action of the cutaneous surface, and that the calomel, "which is deposited upon the skin, is allowed to remain, and by a slow process of imbibition a part of it is probably absorbed into the blood." With all deference to this distinguished surgeon there seems to be a contradiction here. It is not easy to see how elimination of the poison and absorption of the quicksilver can go on at one and the same time and by one and the same set of organs, the sweat ducts, for I presume it is these that are meant. The two processes are so opposed, particularly in an excited state of secretion, that the full operation of the one means an inversion of the other. Moreover, the logical inference is, that if it be the great object to further Nature's attempts at elimination, the bath will effect this better the more freely it is used and the hotter the steam; but Mr Lee says * this defeats the object in view by washing off the calomel.

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* Practical Observations on Venereal Complaints, 1788, p. 197.

† Ibid., p. 139.

‡ Syphilitic and Vaccino-Syphilitic Inoculation, p. 332.

Dr. Robert McDonnell entirely disbelieves in the absorption of quicksilver used in this way. The mercurialist, he says, † practises simple treatment without knowing it; pounds of calomel ointment may be rubbed in and yet no salivation induced. When, after using the calomel vapor bath, the deposited powder is examined with the microscope, it is found to be in crystals, a form ill adapted for absorption, and on testing the skin with a gold disk it does not give evidence of mercurial action. He is accordingly convinced that the vapor is the beneficial agent, and that the mercury does not act unless it be inhaled, views not quite in accordance with my own observations. No doubt, watery vapor alone has some influence over secondary eruptions. I have repeatedly tested its action separately from that of the mineral, and feel myself warranted in saying this; but I have seen quite as good ground for believing that, leaving the question of inhaling on one side, quicksilver vapor is more potent than mere steam. But whatever way this moot point may be settled, the decision will not tell in favor of absorption, for even the possibility of the easier task, imbibition of watery vapor to any extent, is not well proven. Nor does the greatly increased potency of mercurial vapor, when inhalation is practised, prove any necessary connection between this and absorption; many years ago Sir Benjamin Brodie showed, ‡ that when poisons are taken into the mouth they may act quite independently of absorption.

Suggestions as to the Action of the Poison and Mercury.—Nearly seventy years ago Caron asked § how the venereal principle, being a movement impressed and not a body, could be absorbed. Suppose he should prove nearer the mark than the modern physiologist, and it should one day turn out that there is no absorption of virus and practically none of mercury; that the nature of the syphilitic secretion which induces chancre, is to set up at the same time a special irritation, at the spot affected; that from this point an equally special irritation is conveyed to the nervous centres and from thence reflected to the skin and mucous membranes, in the shape of a particular series of actions; and that in precisely the same way mercury sets up an antagonistic action, commencing at the part to which it is applied, borne from there to the nervous centres and thence reflected to the parts where syphilis shows itself. There is nothing in this less strictly pathological than is the fact, that the passing of a sound will in some persons cause faintness, vomiting and arrest of the heart's action; that essential oil of almonds, placed upon the tongue, and aconite, thrown into the rectum, will cause death without being absorbed into the circulation. ‖ Those who look at the whole question from an unprejudiced point of view, may see in the secretion of infectious matter at the seat of chancre, a special and peculiar extension of the kind of action which, under the influence of an irritant, produces a secretion of mucus from the urethra, and which, when excited by another special irritant, changes this mucus into the pus of gonorrhœa. They may see no more necessity for inventing a system of absorption to account for a sore on the penis bringing on iritis and venereal pains, than for a urethritis setting up gonnorhœal iritis and rheumatism. Others may say it is not very likely so many authors should be wrong and a solitary person right. My reply is that this is a question with which I have nothing to do, the purpose of the present communication being to examine the merits of a theory, not to meet objections.

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* Syphilitic and Vaccino-Syphilitic Inoculation, p. 328.

† Lectures and Essays on the Science and Practice of Surgery, 1872, p. 80.

‡ Works, 1865, vol. 2, pp. 30, 31, etc.

§ Nouvelle Doctrine des Maladies Vénériennes, 1811, p. 40.

‖ Works, 1865, vol. 2, pp. 30, 31, etc.

ARTICLE II.—FATAL POISONING FROM CHLORATE OF POTASH. By THEO. G. CROFT, M.D., Aiken, S. C.

L. T.——, female, nineteen years of age, was taken sick on January 5th, 1882, with fever and sore throat—slight symptoms of diphtheria. A pill of mass hydrg. was given, to be followed by a dose of sulphate of magnesia the next morning, and a gargle of chlorate of potash. One teaspoonful to the tumblerful of water was ordered, and the patient directed to take an occasional swallow of this solution.

6th. Patient about the same, with a suspicious looking patch on the tonsil. I cauterized the throat, gave quinine, and ordered the gargle of potash continued.

7th. Patient slightly better, and very anxious to get well enough to attend church the next day. Has also a great fear of having diphtheria. The bowels were reported as being very loose, for which she was advised to take a teaspoonful of paregoric, and repeat the same if necessary.

8th. At 2.30 A.M. was sent for in great haste to see the patient, who was reported as being very sick. On entering the room I was shocked at the change which had taken place in the patient's condition, as from her general appearance I thought that she was dying. She was vomiting every few minutes dark greenish-looking fluid, and her face and hands had a peculiar death-like appearance. To my surprise, I found the pulse very good, and the heart sounds normal, lungs also normal, but a very distressed and anxious look about the face. Extremities warm. Her whole body had this peculiar cyanotic appearance, the blueness extending even to the finger and toe nails. Not being able to account for this peculiar condition, I made inquiry of her aunt and sister, two intelligent ladies, as to what had she taken. They reported that she had had nothing but the paregoric I had ordered, but at the same time said that she had swallowed a quantity of the solution of chlorate of potash, which she had been using the day before as a gargle. Having a great dread of diphtheria, and believing that she could arrest the disease by taking a large quantity of the chlorate of potash, she, after using up one ounce that I had ordered, sent herself for a *half pound* more, using it as a gargle every few minutes, and each time taking a large swallow of it.

I examined the package that contained the last lot, and found that not more than two ounces remained. She, therefore, had used in all about seven ounces in this short time, and had probably swallowed about one half of the same. After hearing this, it was evident that she had poisoned herself with chlorate of potash. As her general appearance indicated a failure of the heart's action, I gave stimulants freely, and tried to check the nausea, but nothing was retained. Applied mustard plasters over the stomach, which left very dark, nearly black, discolorations, resembling ecchymosis, instead of the usual redness. Pulse about 50, bowels have not moved since the administration of the paregoric, nor has she passed any urine. Condition remained about the same throughout the whole day and night of the 8th, with possibly a more intense blueness of the skin.

9th. Patient remains about the same. My friend, Dr. W. H. Geddings, was now called in consultation, and confirmed my diagnosis. He has kindly furnished me with the following from his case-book :

Face still very ashy, pulse full 96, temperature normal, nails blue, answers questions, but is very apathetic. Very small amount of urine since yesterday, and that very black. None since last night. Has passed a very small amount of greenish matter from the bowels, the first since the night of the 7th. Continues to retch, vomiting the same dark green fluid with black flocculent masses. Mustard plasters continue to cause the dark discolorations already alluded to. Gave brandy hypodermically, and brandy, milk, and eggs, with spirits of camphor, per rectum. Bismuth and hydrocyanic acid for nausea.

10th, A.M. Pulse 100, temperature 100, less blueness of nails, less cyanosis. Nausea relieved, mind wandering, and does not recognize persons readily. Has passed no fæces or urine since yesterday. Infusion of digitalis and apollinaris water. P.M. Pulse 124, head symptoms much worse.

11th. Very delirious all night, but quiet toward morning, sleeping at short intervals. Passed a teaspoonful of urine, dark brown color. No albumen. Patient conscious, recognizes persons, but is unable to concentrate her thoughts. Suspend medication, and give nutritious food.

12th, A.M. Cyanosis less marked. Pulse 80. Voided a very small amount of urine, not quite as dark as that passed yesterday. Bowels acted, passing a very small quantity of black fæcal matter. Complains of nothing but a bad feeling in the head. Sighs and answers in monosyllables. Recognizes every one, but will not converse. Constant tossing of the head, also the kness when flexed on abdomen. Sleeps very little, and will not keep the covering on. P.M. Pulse 115. Dry cups over kidneys.

13th, A.M. Patient seems much better, cyanosis gradually disappearing. Passed a very small quantity of urine, which is much lighter in color. Pulse 84 and strong. P.M. Much better, so much so, that Dr. Geddings withdrew from consultation, as we both thought the case doing well, and going on to a quick recovery. Mind seems much clearer, and will answer a few questions if pressed, but calls for nothing, and asks no questions. Pulse about the same.

14th, A. M. Patient more restless, and passed a bad night. Pulse very quick and weak. Gave stimulants frequently and in large quantities. P.M. Patient much changed for the worse. Pulse very rapid and weak, and patient evidently sinking fast. Died at 9.30 o'clock, P.M. After death the skin became very clear and white, looking like a piece of marble. During the whole attack she scarcely complained or called for the slightest thing, although the mind seemed clear most of the time.

As chlorate of potash is a remedy so frequently used in almost every family, regarded always as an innocent drug, and as there is so little said in our text books in regard to the danger of an overdose of the same, or as to the physiological effects, symptoms, diagnosis and treatment of a case of poisoning from the drug, I thought the above case, in connection with the other recently reported cases, would be of interest to the profession.

There can be no doubt in regard to the diagnosis of the above case, and after seeing it I do not think you could ever be mistaken in its diagnosis. The peculiarities being the diarrhœa at first, followed so soon by complete constipation and stoppage of all urinary secretion, the great and persistent nausea, the strange, deep cyanosis, remaining for such a length of time (in this case for seven days), although lungs and heart-sounds seemed to be in a normal condition, and the apparent improvement of the case, followed so suddenly by rapid sinking.

Indications for treatment seem to be to encourage secretion of the skin, kidneys, and bowels for the elimination of the drug, and at the same time to sustain the patient under the great prostration, with free stimulation and concentrated nourishment. Transfusion has been proposed, but was not resorted to in this case. I quote the following on the physiological effects of the potash salts: " By cold as well as by hot-blooded animals, injections of a small amount of the potash salts into the blood causes gradual diminution of muscular force, and finally total cessation of muscular movements and heart's action. Injected into dogs 10 to 12 c. grams of chlorate potash, or 30 c. grams nitrate of potash, and in cats even 10 c. grams of this salt, causes rapid sinking of the heart's action, with cessation soon in diastole, from which they do not react even under the strongest irritants. With the reduction of the heart's action, the blood pressure sinks, also the strength and frequency of its impulse and its rhythm is irregular. The supply of blood to central nervous organs is diminished, the interchange of gases is disturbed, causing labored respiration, and finally clonic convulsions. After the action of the heart is reduced by the drug, cutting the pneumogastric nerve does not prevent its entire cessation. Soda salts injected into the blood in two to three times this amount, only causes a little passing weakness, but no effect upon the heart or nervous centre's activity. Injection into the veins of a small dose, after a very transitory diminution of the blood pressure, and frequency of the pulse, is followed by greater blood pressure and frequency of the pulse, which decreases afterward" (" Eulenburg Encyclopædie der Gesammten Heilkundi").

" This transitory increase of blood pressure is increased when the spinal cord is cut" (according to Boehm).

" There is little variation in the toxic effect of the potash salts" (Guttman).

Up to 1879 Boehm in " Ziempsen's Pathologie and Therapie," vol. xv., page 83, could collect only thirteen cases of poisoning by salts of potassium, and most of them were from the nitrate.

	Sex.	Age.	Quantity.	Result.	Cause.	Observer.
1st......	Male.	50	1 oz.	Recovery.	Mistake.	Oberstädt.
2d.......	"	30	ʒ vj.	"	"	Drustsch.
3d.	"	9	℥ iij.	Death.	?	*Journal de Chemie.*
4th.....	"	20	30 grms.	"	Mistake.	Mouton.
5th.....	Female.	?	1 oz.	"	"	*Rust's Magazine.*
6th.....	"	48	1 oz.	"	"	Laflige.
7th.....	"	36	1 oz.	"	?	Jouville.
8th.....	"	?	2 oz.	Recovery.	Mistake.	Butler.
9th.....	"	24	2 oz.	"	"	?
10th....	Male.	40	ʒ ij.	Death.	Enema.	O. A. Meyer.
11th ...	"	?	16 grms.	Recovery.	Mistake.	Ritter.
12th....	?	?	25 grms.	Death.	"	Chevallier.
13th....	Female pregnant.	?	Handful.	Recovery with abortion.	"	Alexander.

ARTICLE III.—PAPER ON MODIFIED INOCULATION. By C. H. TEBAULT, M.D. Read before the New Orleans Medical and Surgical Association, under suspension of the rules by unanimous consent, at its regular meeting, Saturday night, May 12th, 1883.

NEW ORLEANS.

Mr. President and Gentlemen of the New Orleans Medical and Surgical Association:

Gentlemen—In last Sunday's *Times-Democrat* I noticed the publication of certain resolutions purporting to have been adopted by the State Medical Association, the Parish Medical Association, and the New Orleans Medical and Surgical Association, the two latter being located in this city. These resolutions condemn inoculation, however practised or modified, and under all circumstances, and urged the legal suppression of this practice as a preventive remedy against that most dreaded and loathsome malady, small-pox, and advocated vaccination as the exclusive and only legal means to be allowed looking to the protection of the citizens of this State from this ruthless, disfiguring, most contagious and deadly distemper. These resolutions went further. They demanded that vaccination should not simply be the only preventive means allowed, but that it should be made a compulsory process. It strikes me, gentlemen, that we should rather enlarge our remedial resources in contending with such an enemy than to curtail them to one single preventive measure whose history is replete with numerous signal failures in this responsible rôle, and a remedy in itself not free from danger to life, as countless tombs in every city, town, and hamlet of every civilized country in the known world will declare in silent, yet convincing and practical language. There are few subjects more imperfectly understood than small-pox and vaccination, and as a matter to be expected under such circumstances, a still denser ignorance covers the practice of inoculation. It is not my purpose or aim to submit to-night more than a rough sketch of the subject in hand. I will, therefore, only ask to claim your attention for the facts which I will undertake to briefly lay before you. The extracts immediately following are from a pamphlet sent me with the compliments of the author, Frank P. Foster, M.D., late director of the vaccine department of the New York Dispensary, and which was read before the New York Academy of Medicine December 4th, 1873, and which pamphlet is reprinted from the transactions of the Academy, volume 1, second series. I extract as follows: "It is not to be supposed that small-pox can never occur after vaccination, with animal virus, even within a comparatively short time. I am, however, aware of only one instance in which it has occurred in this city. The case happened in the practice of the Northern Dispensary. A child was vaccinated there by Dr. Warren, the house physician, in December, 1871, the animal virus being employed. Dr. Warren inspected the case on the eighth day, and considered the pock to be pursuing a regular course. I think there was no further examination, so that, for all that we know to the contrary, the febrile reaction and the areola may have been wanting. At any rate, the child was attacked during the following March with a very mild varioloid; so mild that Dr. S. F. Morris, who saw the child on behalf of the Board of Health, felt some hesitation at first as to the diagnosis. The child was sent to the hospital, where it made a rapid and complete recovery.

"Such cases, though happily not common, are met with occasionally, and were in former years, long before animal vaccine was used. In this book (the third volume of Barthez & Rilliet's 'Traité Clinique et Pratique des Maladies des Enfants,' second edition, Paris, 1861), I find, on page 117, the statement that 'the youngest children are not wholly proof against post-vaccinal small-pox.' Thus these authors go on to say, in a foot-note on the same page, 'of ninety-six children sick with small-pox at the *Hospital des Enfants*, thirty had been vaccinated. Their ages were as follows: Two were two years old; five were three years old; one was four years old; three were five years old; two were six years old; one was seven years old; two were eight years old; four were nine years old; two were ten years old; four were eleven years old; one was twelve years old; three were fourteen years old.' A fellow of this academy (Dr. Leaming), who, as I see, has done me the honor to be present this evening, and who in former years was one of the house and vaccine physicians of the Northern Dispensary, will acquaint you, I have no doubt, as he has already acquainted me, with the facts in connection with certain cases of post-vaccinal small-pox in infants, which came under his observations at that time, long before the introduction of animal vaccination into this country. I could name a physician, also fellow of the academy, who, although now only thirty years of age, has had small-pox twice. His father, himself a physician, vaccinated him successfully at the age of thirteen months. At the age of thirteen years he had an attack of modified small-pox. He was afterward repeatedly, but unsuccessfully, vaccinated with good current lymph; yet at the age of twenty-two years he suffered from a second attack of small-pox, and this time the disease appeared in its *unmodified* form. All his vaccinations were done with humanized lymph. I mention these facts, not as novelties, for they are not so to those who are familiar with the history of small-pox and vaccination, but simply to illustrate the position I take, viz., that small-pox, which *often* occurs after vaccination, and occasionally after previous small-pox, is no more likely to occur after the use of animal than after that of humanized vaccine, but that neither the one nor the other is an absolute preventive of the disease.''

With the above I terminate my quotations from the valuable pamphlet above referred to as far as Dr. Foster's experience is concerned, to make the following extract from what Dr. Leaming (alluded to above) had to say on the same occasion: ''Dr. Foster had alluded to his (Dr. Leaming's) experience in the matter of small-pox occurring within a short time after vaccination. He would mention the following case: Some years since, when he was vaccine physician of the Northern Dispensary, he vaccinated a child with the same lymph with which he was vaccinating others—the lymph current in the dispensary—from whose arm, which presented the typical appearances, he took lymph on the eighth day. Having used up the lymph thus obtained, and his supply from other sources being scanty, he revisited this child at its home, for the purpose of obtaining the crust, but was very much surprised to find it exhibiting the eruption of varioloid. Dr. Leaming believed not only in the necessity of revaccination, but in repeated vaccination, repeated at intervals of perhaps a year, until it could no longer be able to produce a local result. One vaccination might protect a certain proportion of subjects, but he considered it demonstrated that, in some persons—perhaps twenty-five per cent—not even temporary protection of a perfect character would result from a single vaccination. He had felt this so strongly that he had laid the matter before the Board of Trustees of the Northern Dispensary, during his incumbency of the vaccine physicianship, and measures had been taken by them to impress upon the community the necessity of repeated vaccinations. In this connection, the ensuing table is full of interest:

Table 3.—Vaccinations of persons who had small-pox, modified or unmodified, natural or inoculated :

	Whole number.	Inspected.	Successful.	Unsuccessful.	Success per cent.
Dr. O'Brien	531	531	264	267	49.71
Dr. Folsom	2	2	...	2	00.
Anonymous physician at Baltimore	35	35	16	19	45.71
Totals	568	568	280	288	49.29

In conclusion let me say :

1. I am not of that number who condemn vaccination as useless, but I do insist that to shield the individual it must be perfomed in large communities at least every second year with virus undoubtedly reliable.
2. That it is impossible to make everybody submit to a first vaccination, and hence it is more largely impossible, so to speak, to enforce revaccination every two years.
3. The fact that small-pox cases have small-pox two, three, and more times evidence that small-pox attacks tend to wear away their effects year by year ; and we know that such cases can be successfully inoculated, and even vaccinated.
4. The practice of inoculation proper gives only a very mild crop of eruptions, and in careful hands is to the patient operated on a safe remedy ; that this practice introduces the small-pox poison in such small quantity that it does not seriously disturb the patient, whereas to take the small-pox in the usual way is to overwhelm the system with a tremendous or poisonous dose of the distemper.
5. By admixture of the small-pox lymph with milk attenuates and lessens still more the small-pox virus, and it can be thus diluted at will so as to command the most perfect and assured safety, not only to the individual operated on, but to everybody with whom he comes into contact, and so, like vaccinia, causing no effluvium of a contagious character.
6. That this modified inoculation virus can be had with the first case of small-pox that offers, and which can thus be made a positive and unfailing means of arresting the disease in the person of the first case by so protecting all the rest of such family, or hospital, or boarding-house, or hotel.
7. That by this practice the physician's mind will not be disturbed by the doubt of the freshness or reliability of his virus, for should it not succeed in any given patient after due care in its application and attention to prevent its being rubbed off before absorption has taken place, he can feel that his patient is undoubtedly protected.
8. That the practice of modified inoculation performed twice, seven years apart, will absolutely shield such patients from a possible attack of small-pox, and this fact alone makes its practice a better guarantee against small-pox and a more practicable operation than vaccination.
9. Vaccination is not without danger, as many a grave will tell, and the fact of the absolute necessity of its frequency to assure protection,

adds to the danger to both life and limb inseparable from its proper practice.

10. Vaccination requires fully a week to succeed, and small-pox may overtake such patient within two weeks of such operation, and take possession of him by arresting the vaccination and causing it to dry up.

11. Modified vaccination succeeds in two days and will defy small-pox after three days, and this celerity is a most valuable and important factor in favor of its practice and the security it affords.

This fact of so diluting or modifying a poison for the purpose in question, is at once abreast of, and in keeping with, advanced professional ideas and experience. One quotation from the great Edward Jenner himself will be found strikingly suggestive and appropriate just here. After furnishing a number of cases to show that the same party may be again and again successfully vaccinated at short intervals, he further on in his work makes this pregnant admission: "And now, as we have seen that the constitution may at any time be made to feel the febrile attacks of cow-pox, might it not, in many chronic diseases, be introduced into the system with the probability of affording relief upon well-known physiological principles?"

The writer has sought every just means of securing a fair investigation of the numerous cases operated on by him this year, and while they were in progress. He took one of these primary cases to Dr. Holliday's office, who pronounced it typical of vaccination. He also took two cases, one a primary case, into the New Orleans Medical and Surgical Association, of which he is a member, and there exhibited these two cases, and invited attention to the others in progress. The Board of Health had a representative who saw some six cases in progress. The city government had its chief financial officer, one of its subjects and the ubiquitous, many-eyed press looked upon them without fear or danger, and all without having suffered a visit from this dreaded visitor. I challenged and invited by pen and verbally the fullest and the most thorough investigation, and yet, during my unavoidable absence, without notice to me and without the slightest practical investigation on the part of these organizations, the practice of inoculation, however performed, has been blindly condemned. There are good and fair and honorable men in these organizations, and I can scarcely see how they could afford to contemn a practice without investigation, and of which they have had no personal experience, and without appropriate notice to myself of such intention. Such blind condemnation will fall short of the purpose of the mover in the matter, if it is possessed the value which my experience so far accords it. If I believed it dangerous, I would be the first to say so; but, on the contrary, I feel that it is superior to vaccination in so many essentials, that my whole family and self and numerous friends have this year undergone its successful practice.

I will conclude this communication with the following extract from Thomas Watson, M.D., in his great work on "The Principles and Practice of Physic." This high authority says, speaking of ordinary or unmodified inoculation, that "circumstances do sometimes arise, even now, in which it may be allowable and right to engraft the matter of small-pox; as when an unprotected person is unavoidably exposed, or has recently been exposed, to the contagion of that disease, and there is no vaccine matter at hand, the advantage of inoculating in such cases is, that the inoculated or milder form gets the start of the natural and severer; the fever commencing sooner than it would otherwise do. To show you the value of the practice of inoculation in such cases, and the degree of protection which it affords to individuals whom we cannot vaccinate, I may mention a fact which Prof. Gregory, of Edinburgh, was in the habit of relating, and which was told him by a naval surgeon. The small-pox was introduced among the crew of a man-of-war in a tropical climate, where no vaccine matter was to be procured. The men were almost all unprotected. Sixteen of them took the disease in the natural way; and of these, nine, or more than one-half, died. Of 363, who were inoculated, under the disadvantages of a hot climate and no preparation, not one perished."

Modified inoculation by so attenuating and diluting the poison of small-pox, renders it as safe as vaccinia (which is itself nothing but modified small-pox), against its possible communication by personal contact or intercourse. And simultaneously with the presence of the disease, whether in the frigid or the torrid zone, and whether amid the snows and ice of winter, or the scorching and vertical rays of the midsummer sun, is thus made to safely supply at once the means of its certain arrestation.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

CASES OF LESIONS OF PERIPHERAL NERVE-TRUNKS.

In the July number of the *American Journal of the Medical Sciences*, Dr. Weir Mitchell contributes another of his instructive papers on nerve lesions illustrated by five recent cases, which he has very carefully noted and studied. Nothing which we know as yet explains all the clinical phenomena of these interesting cases, and, in all probability, some of the variations in the symptoms observed are to be attributed to differences in the character of the disorder affecting the nerve-trunks, or even to the nature of the causes originating the active pathological condition.

In one of the cases, among the various points of interest, none exceeds in value the abrupt extension of the areas of lessened sensation which was seen after section of the median and radial nerves. This was not to be accounted for upon any knowledge which we now have of the peripheral distribution of nerves, since in one case the dysæsthesia spread far beyond the region tributary to the nerve stretched or cut; and, in the other, in some directions did not cover the whole regions usually affected after radial nerve sections. Generally speaking, the sympton is to be considered as one of the many forms of shock. A sudden injury to a nerve already morbidly altered gives rise to an inhibition of function in certain closely related centres. The disturbance might be in the direction of motor or of sensory inhibition, and both forms are among the rarer phenomena of nerve wounds from rifle balls. The fact itself is less surprising than its permanence, nor is it easy to comprehend the precise nature of an influence which may act on such varied functions, and act so persistently.

In a case of section of the infra-orbital nerve for facial neuralgia, the remarkable feature was the fall of temperature, a symptom exceptionally rare in any form of neuritis, whether of internal or traumatic origin.

CONTUSIONS OF THE BRAIN AND SPINAL CORD.

Dr. John A. Liddell, late surgeon to Bellevue Hospital, New York, in an elaborate practical paper on this subject (*Ibid*) discusses the clinical history, diagnosis, prognosis, and treatment of this large and very important class of injuries. While much is said in our text-books on the subject of cerebral concussion—of its dangers and of its importance—but small if any mention is made of the contusions of the brain which so very often complicate the concussions, and impart to them whatever of gravity, be it much or little, that they may chance to possess. And still less mention is made of the contusions of the spinal cord. No wonder, then, that bruises of the brain-structure, and of the spinal cord-substance, occur much more frequently than is generally supposed, that the relationship which exists between these injuries and concussions is not well understood, and that the bruises of these organs often escape even all suspicion, during life.

That slight or even moderate concussions of the brain sometimes, perhaps not unfrequently, occur without being complicated with contusions of the brain, Dr. Lidell does not doubt. Contusion of the brain is, therefore, he believes, not synonymous with concussion of the brain, but, at the same time, all the evidence now collected tends to prove that the severe instances of cerebral concussion are always complicated with cerebral contusion. Concussion of the brain, however, derives its chief importance from the fact that it is very often associated with contusion of the brain; and, in examining a case of cerebral concussion, the question of most importance for the surgeon to decide is whether or no cerebral contusion is also present.

These are points of doctrine which practically have much interest for patients as well as practitioners, because of the influence they are likely to exert in the direction of procuring a correct diagnosis and, consequently, a wise treatment; for, in the disorders of no other parts of the body is it more true that an accurate diagnosis begets a wise plan of treatment than in those of the brain and spinal cord.

A DEMONSTRATION OF THE FEEBLE INFLUENCE OF IODINE OVER MALARIAL FEVERS, BASED UPON AN ANALYSIS OF SEVENTY-SIX CASES OF INTERMITTENT AND REMITTENT FEVERS TREATED WITH THE AGENT.

There have recently appeared numerous reports from medical men in various parts of the world, reciting the virtues of iodine in the treatment of malarial fevers. It is true that these do not all agree as to the exact degree of reliance that may be placed on this agent as an antiperiodic. There are, however, those who claim for it an efficacy not less than that of Peruvian bark, as far as the immediate control of the attack is concerned; and even greater than bark in preventing its recurrence.

It must be confessed, however, that the results reported by various observers do not entirely agree. Here we find an assertion that in chronic malarial poisoning iodine does its work most effectually; there, that its value is nil; in another article we find that it is recommended to render permanent the cure that quinine has begun; in still another, that it is given in combination with quinine, arsenic, etc. On the other hand, we find that by some anti-periodic properties are denied to iodine.

Attracted by the testimony in its favor, and with the desire to definitely ascertain the powers of iodine as an anti-malarial remedy, in view of the ease of its administration, and of its comparatively small commercial value, Drs. I. E. Atkinson and Hiram Woods availed themselves of the opportunity of treating malarial fevers afforded at Bayview Asylum, Baltimore, during the late summer and autumn of the past year (1882), and they record the results in the July number of the *American Journal of the Medical Sciences.*

Their experience leads them to draw the following deductions as to the use of iodine in *acute malarial poisoning :*

(1) In intermittent fevers it has some feeble influence in controlling the paroxysms.

(2) It takes usually from three to eight days to exercise this influence.

(3) In *cures effected* there is great danger of a relapse ; certainly as great as with Peruvian bark.

(4) It is certain to add to any existing diarrhœa or nausea, and is liable to cause each, if they do not already exist.

(5) In *remittents*, its effect, if any, is seen in a slow and gradual reduction of temperature, and this reduction is liable to sudden interruptions.

(6) In *both forms* of malarial fever it is infinitely inferior to either cinchonidia or quinine ; certainly as regards the immediate control of the fever, and as far as we are able to judge, as regards relapses also.

(7) From an economic point of view, the slowness and uncertainty of its action make its use in *hospital* practice fully as expensive as Peruvian bark.

(8) There seems to be ground to believe that it can cause albuminuria.

(9) In the large majority of cases of ordinary acute malarial poisoning it has no influence whatever.

SOME POINTS IN RELATION TO THE DIAGNOSTIC SIGNIFICANCE OF IMMOBILITY OF ONE VOCAL BAND ; WITH ESPECIAL REFERENCE TO ANCHYLOSIS OF THE CRICO-ARYTENOID ARTICULATION AND ANEURISM OF THE ARCH OF THE AORTA : WITH SIX ILLUSTRATIVE CASES.

Dr. J. Solis Cohen, in an interesting paper (*Ibid*) points out : 1st, that laryngoscopy may sometimes be the sole or most efficient means of diagnosis in affections located exterior to the larynx ; and 2d, that a liability to error might often be incurred, were we to place too exclusive a reliance upon the objective symptoms, as presented by the image seen in the laryngoscopic mirror.

From a study of cases under his observation he concludes :

1. That whenever the left vocal band is immobile in abduction, or in the cadaveric position (positions in which the patency of the glottis is not interfered with), and there is cough or dyspnœa (or both), without cardiac or pulmonary lesion to account for these symptoms, we are justified in suspecting aneurism of the aortic arch ; and difficult deglutition will be almost certainly confirmatory of the diagnosis, notwithstandng the absence of tumor, pulsation, thrill, and *bruit.* The only and exceedingly improbable source of error, would be intra-thoracic neoplasm.

2. That anchylosis of the crico-arytenoid articulation may fairly be suspected in cases of immobility of one vocal band, not referable to mechanical interference with the transmission of nervous force ; unaccompanied with evidence of central or local nervous disease ; and in which failure to respond to appropriate treatment will warrant us in excluding muscular atrophy. But the diagnosis can be finally established only by the application of direct pressure to the affected arytenoid cartilage.

3. That whenever one vocal band is immobile in the cadaveric position or in abduction, and there are no other signs or symptoms to assist the diagnosis, anchylosis being eliminated, we should not be satisfied with a diagnosis of neuropathic paralysis ; but should keep the patient under

observation with a view to detecting the earliest manifestation of aneurism, consolidated lung, or other mechanical cause for the impaired innervation.

A CASE OF PRIMARY MONOMANIA.

The circumstances connected with the trial of Guiteau brought prominently to notice a peculiar form of insanity, the so-called primary monomania. In view of the professional interest attaching to this variety of mental disease, the publication of the case reported by Dr. C. B. Burr, of the Eastern Michigan Asylum, (*Ibid*) is timely, and attracts attention on account of the resemblance it bears to that of Guiteau. Disregarding the moral traits of these two individuals, their cases are strikingly similar.

In contradiction of the oft-repeated assertion that the execution of an insane criminal now and then has a deterrent effect upon others of like propensities, Dr. Burr's case may well be cited, inasmuch as his homicidal assault was made less than five months after the hanging of the murderer of the President, and in face of the strong popular sentiment against the so-called "cranks" and lawless fanatics. There are few more striking illustrations of the impotency of moral and legal measures to restrain or control a morbid impulse than is afforded by this case.

REPORT OF EIGHT CASES OF COXALGIA IN WHICH ELEVEN OPERATIONS OF SUBCUTANEOUS OSTEOTOMY HAVE BEEN PERFORMED IN THE CHILDREN'S HOSPITAL, PHILADELPHIA.

In a paper in the July number of *The American Journal of the Medical Sciences*, Dr. H. R. Wharton records eight cases of coxalgia followed by marked deformity, in which eleven subcutaneous osteotomies of the femur were performed. The results obtained were most satisfactory, not only as regards the immunity from danger in the operation, but also as regards the correction of the deformities and restoration to use of comparatively useless limbs.

The amount of constitutional disturbance following the operations was insignificant, as little, or even less, than that which follows a simple fracture of the femur ; in no case was there excessive hemorrhage at the time of operation, nor did there follow in any case marked febrile reaction or suppuration ; the wounds healed as ordinary tenotomy wounds, and by the end of the first week were generally found entirely closed, so that further dressings could be dispensed with.

The facility with which the wounds healed in these cases can only be explained by their subcutaneous character, for although by the operation a compound fracture of the femur is produced, it must be remembered that the original puncture, which is made down to the bone by Mr. Adams's knife, is small, and that when the saw is introduced and cuts the bone, the wound is entirely filled by its shank, by blood and by dust from the sawn bone, so preventing the admission of air to the deeper parts.

The results of reported cases bear strong testimony to the general safety of the operation, and there is no doubt that the selection of proper cases, and care as to the position at which the section of the bone is made, will render this operation one of the safest in surgery.

The paper concludes with a full and careful discussion of the various details of the operation.

AMYL NITRITE IN RETINAL ANÆSTHESIA.

Dr. R. H. Derby, New York (*Medical News*, August 15th, 1883), reports the case of an eight-year-old girl who was nervous, excitable, had grown rapidly of late, and recently convalesced from severe scarlet fever. March

30, she complained of pain in and about eyes, affecting sight. Vision about half of each eye; eyes examined under atropia, vision as before; no improvement with glasses. On each eye fields limited to five degrees in every direction from the point of fixation. Patient treated with small doses of zinc oxide, directed to wear blue glasses. After two months vision in no way improved, and on June 1, vision reduced to $\frac{2}{10}$ of each eye; fields limited as before. It now appeared that the optic disks were paler in their outer halves, deprived of their capillary blush. Three drops inhalation of amyl nitrite given daily, each inhalation followed by a marked flush of face, with no immediate change for the better in vision. June 3, vision $\frac{3}{10}$; June 8, V. each eye $\frac{6}{10}$, with enlargement of visual fields. June 9, V. $\frac{9}{10}$ nearly; June 10, V. $\frac{10}{10}$; again enlargement of fields. June 19, fields of view normal, V. $\frac{10}{10}$.

The interesting point in this case was the persistence of the affection, the evidence of partial atrophy of the nerve, the tendency of the case rather to retrograde under ordinary treatment, and its very marked improvement after inhalations of amyl nitrite. Dr. Harlan has reported the case of an hysterical girl, who troubled them a great deal at a clinic for a long time on account of excessive photophobia, which they were unable to relieve by a great variety of methods adopted. Examination under ether showed a healthy fundus. At length, an assistant suggested amyl nitrite. He gave her inhalations of it in large quantity, three times a day, and soon she returned to the clinic entirely cured. Some time afterward, however, the hyperæsthesia returned, and this time amyl nitrite failed to do much good. Dr. Risley has obtained some benefit from inhalations of amyl nitrite in photophobia from disease of the cornea in children. A man was relieved for a moment, but on suspending inhalation photophobia returned.

Dr. Noyes has observed the case of a man, blind twenty-four hours when he presented himself at the hospital. The retinal circulation was found to be almost completely suspended. He wished to see what amyl nitrite would do in hastening cure. Under the inhalations the face flushed, and in about three minutes normal vision was restored.

CACTUS GRANDIFOLIA IN SEXUAL EXHAUSTION.

Dr. Pitzer (*American Medical Journal*) says that while other remedies are required to effect a permanent cure, nothing will give more speedy relief in this condition than cactus gladiflorus. It immediately strengthens the cardiac plexus of the sympathetic and improves cardiac nutrition of the heart. The pulse becomes regular. The expression is hopeful, and past sufferings seem to have been only dreams. It may be said that these symptoms are all secondary, and that cures cannot result from drugs prescribed at these. This is true, but no drug, no matter how effective in healing the original disease, can possibly effect its purpose so certainly and so speedily while the patient is laboring under the terrible nervous symptoms above narrated, which so quickly pass away under the influence of cactus. The primary disease has sometimes, to a great extent, disappeared, but continued long enough to excite the cardiac neuroses referred to. This secondary lesion has existed so long that it does not readily pass away, though the original disease be gone. Here the cactus is not only indirectly curative, *but it cures in fact.* In all these cases:

℞ Tinct. cactus grand., ʒ j; aquæ ℥ iv. M. Sig. One teaspoonful four times a day. In some cases it is combined with pulsatilla, in others with macrotys.

ORIGINAL ABSTRACTS.

TREATMENT OF MIGRAINE was discussed by Dr. W. J. Morton, at the Neurological Association, who called attention to a more systematic treatment of the affection than that generally adopted (*Journal of Nervous and Mental Diseases*). Two types were described, the spastic and the paralytic, depending, respectively, upon contraction or dilatation of the blood-vessels, through the influence of the vaso-motor nerves. In treatment of the spastic form, the bromides were specially effective, sodium bromide being in general perferred, because so much better borne than potassium. Sixty grains at the beginning of an attack, and, if necessary, repeated in an hour, would usually abort it. Amyl nitrite and nitro-glycerine were often very beneficial, the latter being more permanent in its action. It should be given after meals, in order to avoid uncertainty from possible decomposition in an alkaline stomach. In the paralytic type strychnine was recommended, but ergot was the most useful in aborting the attack, and causing contraction of the vessels. The remedy should be continued afterward, and be given by the mouth or hypodermically. Cauterization and methodical electricization were also beneficial. Dr. W. A. Hammond had found strychnine even more valuable than ergot. He accepted the division into the spastic and paralytic types. He asked Dr. Morton how he would treat a case in which the spastic variety was upon one side and the paralytic upon the other, of which he had seen two examples, which he had been unable to treat successfully. Dr. J. L. Corning, of New York, referred to treatment by compression of the carotids. Dr. Wilder had found carotid compression successful in checking migraine in his own case. He mentioned incidently that he once had toothache in which severe pain occurred only with every other pulsation. Dr. Hammond thought this probably explained by the fact that the alternate pulsations were the stronger. Dr. C. L. Dana, of New York, did not believe migraine could be divided into the two classes of cases mentioned, or that the exact nature of the case could always be determined. He had given decided benefit by frequently repeated small doses of cannabis indica. Dr. Edes said that he was unable to determine from which form, the spastic or the paralytic, he had suffered for a number of years. The attacks were aborted by a two-drachm dose of potassium bromide taken on going to bed. Caffeine was beneficial in certain forms of migraine.

CONGENITAL ABSENCE OF SPLEEN.—Schuethaür (*St. Petersburger Medicinische Wochenschrift*) reports the case of a seventy-year-old woman, in whom the spleen had never existed.

PROLONGED ANTISEPTIC BATHS.—The *Medical Times and Gazette*, March 31st, 1883, states that a recent *thèse* by Dr. Jannin, gives an account of the antiseptic baths first introduced for the treatment of surgical affections by Verneuil in 1870. Their application would be difficult for the lower extremities, but they are easily employed for any wound of the hand, arm, or elbow. The antiseptic solution (one to two per cent of carbolic acid) is employed tepid for about two hours at a time, and repeated two or three times a day—the parts being covered in the intervals with compresses wetted with the bath water. Dr. Jannin concludes from his cases that the bath often renders immense service in circumstances of unusually unfavorable prognosis. Its employment in most cases suffices to prevent traumatic fever, and causes the disappearance of painful symptoms. When symptoms of septicæmia are present, these can be often arrested, the patient cured, and the functions of the limb preserved. In horses' bites and in contused wounds with much detachment and crushing, if the parts can be easily submerged, the prognosis, generally so bad, will be greatly improved, the patient in a few days becoming protected against accidents which so often prove fatal. In gun-shot wounds, Verneuil has also obtained good results from the baths.

Hand Atrophy from an Axillary Dislocation of Humerus.—Dr. F. T. Miles, Baltimore (*New York Medical Journal*, June 30th, 1883), cites the case of a fifty-year-old man who, two years before, fell and injured his shoulder, and afterward suffered extreme pain down the corresponding arm to the fingers, which he was unable to move. He was confined to the house during five months. The severest pain was located in the shoulder. The surgeon then found an unreduced axillary luxation of the humerus. There was great deformity of the ring and little fingers. The skin was pale, and presented a glazed appearance. The fingers could be moved but slightly, and movement at the wrist joint was limited. Touching a finger caused the arm to jerk away in a peculiar manner, but not from pain. Dr. Miles believed that physicians were inclined too much to routine in always looking for particular symptoms, such as pain, thickened nerve, etc., in any supposed neuritis. The foregoing case and others showed that there might be changes present, due to an affection of the sensory, motor, and trophic nerves, other than the subjective symptoms referred to; and the symptoms varied greatly in different cases.

Errors in Diagnosis are always of interest, and those made by the Bellevue officials during the typhus epidemic of 1881–1882 are especially so. Of the patients sent to the Riverside Hospital, Dr. F. W. Chopin says that one case of alcoholism was mistaken for typhus, in another, alcoholism complicated by malaria. One patient who was markedly affected with acne was sent to the hospital as a case of typhus. Two patients, both debilitated, who were sent to the Riverside Hospital as typhus-fever patients, were not ill other than mentally, one being a lunatic, the other an imbecile. In one case the only thing about the patient was found to be constipation, he being otherwise perfectly well. In two cases the supposed typhus patient had diarrhœa, and in one dysentery. In one case the patient was suffering from delirium tremens. In two cases erythema was mistaken for typhus, and in one case erysipelas. In one case the patient was suffering only from the effects of heat. In one case the patient had sprained his ankle, and in consequence was regarded as a case of typhus. In another case the only basis for the diagnosis of typhus was the presence of subacute gastritis. In one case multiple cerebro-spinal sclerosis had been regarded as typhus. Two cases of malaria found their way into the hospital as cases of typhus. One of these was complicated by menorrhagia. One case of meningitis and one of malingerer were sent to the hospital as typhus. Pharygnitis formed the excuse for a diagnosis of typhus in another case. The diagnosis of purpura hemorrhagica as typhus, under the circumstances, is readily explicable; this occurred in one case. But what shall be said of three cases where the wounds inflicted by pediculi led to the erroneous diagnosis? Pneumonia led to the diagnosis of typhus in five cases. Phthisis in one and pleurisy in one; scarlatina was mistaken for typhus in one case, and the existence of small-pox led to a similar diagnosis in three cases. Scrofula and rheumatism were in two cases the cause of a diagnosis of typhus. In one case the diagnosis was based only on the existence of ulcers of the leg. Broncho-pneumonia led to the diagnosis of typhus in one case, pyelitis in one case, diphtheritic dysentery in one case, *delirium grave* in one case, cerebro-spinal meningitis in one case, pneumonia and cerebral softening in one case, chronic nephritis in one case and remittent fever in one case ; typhoid was not taken for typhus, but the latter disease was occasionally taken for the former, a much more serious mistake, as the patients had been treated in general hospitals.

Skin-flap Transplantation.—Dr. J. R. Wolfe (*Practitioner*, May, 1883) has had good results from the following procedure : He removes all the cellular tissue from the lower surface of a skin-flap, and then plants it where he desires, and it takes root and grows fast. This simple procedure does away with the inconvenience of allowing the flap to remain attached to its original site until it has grown fast in its new home.

Anthelmintic.—Dr. H. Stieren (*Druggist*, July, 1883) claims that the following has acted well as an anthelmintic :

℞.	Santonin	8 grs.
	Jalap	8 grs.
	Valerian	8 grs.
	Sugar	20 grs.
	Oil of Levant Wormseed	4 drops.
	Oil of Origanum	2 drops.

M. Divide into four powders and give one powder morning and evening, or two grains of santonin per dose. Children less than two years of age should receive one half the above dose, while one and one half of that amount will not be too much for children above six years. Castor oil should be given as usual. Injections of onions or garlic are valuable adjuncts, while the patients should be placed on low diet.

Cancer and Non-Malignant Disease.—Dr. D. Lewis, New York (*New York Medical Journal*, June 30th, 1883) comes to the following conclusions respecting the relations of cancer and the non-malignant affection : "Many diseases of a non-malignant character are not only predisposing but exciting causes of cancer. Such degeneration often occurs in patients who have no hereditary predisposition to cancer, and in those who are so predisposed the danger is imminent. The recognition of the pre-cancerous stage of the disease is of the highest importance in its successful treatment. While it is true that heredity is well attested in many cases, its importance has been greatly overestimated by all the older authorities and many writers of the present day."

Blood-Letting in Metritis.—Dr. J. Direra (*Gaceta Medica Catalana*, May, 1882) has had good results from scarification in metritis and areolar hyperplasia. The treatment should be begun just after the menstrual epoch. Scarification should be performed on alternate days. The object is not so much to let blood as to prick gorged capillaries causing their contraction followed by uterine contraction. He concludes, first, that scarification is a potent therapeutic measure in chronic metritis ; in acute metritis it is also of value. Second, local blood-letting is always indicated, general rarely. Third, direct blood-letting from the cervix uteri is a most valuable local means. Fourth, scarification best meets this indication. Fifth, in the second period of chronic metritis it is, at best, useless. Sixth, intra-utrine medication is a good adjuvant. Seventh, a pointed instrument is preferable to any other means. Eighth, loss of blood is the chief agent in producing the beneficial results. Ninth, scarification should be frequently repeated.

IODOFORM IN PHTHISIS.—Chiaramelli (*Gazzetta Medica di Roma*, August 15th, 1882) claims for iodoform an almost specific action in pulmonary phthisis. It should be given in one-tenth grain doses two or three times a day. It lessens expectoration and improves its character. At the same time the fever is reduced. The drug is also of value in the chronic bronchitis of the aged and in bronchorrhœa with pulmonary emphysema. Dreschfield (*British Medical Journal*) finds the effects of iodoform to be increase of weight, increase of appetite, diminution of cough and expectoration, diminution or total cessation of night-sweats, and a little lowering of temperature.

HYDROBROMIC ACID.—Dr. C. L. Dana (*New York Medical Journal*) states that the dose of the pure acid is from ten to twenty drops; of the officinal, or the ten per cent solution, one drachm to two drachms and a half, usually given in two small doses. During the past two years he had employed hydrobromic acid in epilepsy, alcoholism, various forms of headache, vertigo, general nervous depression, neurasthenia, chorea, insomnia, hysteria, post-hemiplegic disturbances, etc. He had the greatest benefit from the drug in epilepsy, in post-hemiplegic difficulties, and in other lighter general nervous troubles. It did not prevent cinchonism in the small doses in which it was usually prescribed. Hydrobromic acid was recommended in preference to the haloids, because it was agreeable to take, non-irritating, and did not produce an eruption or bromism. It will be obvious that the classification adopted is a very general one, and is no guide to the use of acid as a neurotic agent. Probably most of its effects in nervous depression and neurasthenia are due to its action on the digestion.

SURGERY OF THE SHOULDER.—Dr. W. J. Conklin (*American Journal of the Medical Sciences*, January, 1883) reports a case of periosteal osteoid sarcoma of the humerus. Amputation at the shoulder joint was performed. A recurrence of the disease necessitated the removal of the entire scapula and outer extremity of the cavicle. Four months after the operation there had not been any return of the disease.

GAULTHERIA IN RHEUMATISM.—Dr. Flint (*New York Medical Journal*, June 30th, 1883) reports the following statistics with regard to the use of gaultheria in Bellevue Hospital in acute articular rheumatism. Of thirteen cases thus treated, of which the histories were given, one patient contracted pneumonia after the cure of the rheumatism, and died in the hospital; a second one remained in the hospital, at the expressed wish of the commissioners, some time after cure of the remaining eleven cases; the longest duration of the disease in any one case was fifteen days, and the shortest two days. The average length of time of hospital treatment was a fraction less than five days. These figures seem to show rather better results from the drug than those ordinarily obtained from salicylic acid. The oil was administered several times a day in ten-drop doses in flaxseed tea, which made it less disagreeable to taste and the stomach. In some cases alkaline treatment was employed at the same time with the gaultheria. Dr. Ball had used the oil of gaultheria in a number of cases of acute articular rheumatism in St. Luke's Hospital, and with even better results than those mentioned by Dr. Flint. The drug was administered in milk, and was less disagreeable when taken in this manner than salicylic acid or sodium salicylate. Dr. Ball thought that the action of the drug was like that of the two latter.

PRUNE STONES IN THE INTESTINES.—Fuhrbringer (*Deutsche Medicinische Wochenschrift*) reports the case of a woman admitted to an hospital, suffering from alleged syphilis. The diagnosis was based on the existence of a monstrous ring of inflamed varix nodules studded with ulcerations, within the anus. The symptoms present were decubitus, involuntary thin evacuations, and dyspepsia and marasmus. A finger introduced into the rectum encountered a hard, sharp-edged body. Ninety-eight prune stones were removed, and the next day one hundred and thirty-seven. The patient, while very hungry, swallowed a large number of prunes with the stones. Removal eight weeks later resulted in perfect recovery.

POTASH PERMANGANATE IN DIABETES.—Masoin (*Lancet*) has found very good results from manganese in diabetes. The potassium combination is the best. The influence, in his opinion, is exerted on the liver.

ENDARTERITIS OBLITERANS.—Dr. Francis Delafield (*New York Medical Journal*, June 30th, 1883) reports the following case : A man about thirty years of age had been in good health until November 11th, 1882. In the afternoon he had a severe headache, which became worse, and in the evening he grew almost comatose. This stupor continued. The next day there was complete motor paralysis of left leg, arm, and side of face ; sensation remained. After two or three days, intelligence began slowly to return, and the patient's condition gradually improved, so that by November 16th he was able, with assistance, to walk a short distance. The 16th he had a relapse, the stupor and motor paralysis began to return, and by the 30th he was again completely comatose and paralyzed on the left side. He died January 5th. At the autopsy the only lesions found were in the brain. A point of softening about the size of the finger nail lay in the caudate nucleus of the corpus striatum on the right side, and another smaller one just below in the internal capsule. The large arteries at the base of the brain were the seat of obliterating arteritis. The arteries leading to the seat of the lesions could not be traced. The case was interesting, as belonging to a class of cases in which cerebral symptoms were dependent, not upon embolism, but upon arterial disease ; and, secondly, since such serious results followed a small cerebral lesion. It was difficult to understand how so small a destruction of brain tissue could cause not only motor paralysis, but also death. The cerebral lesion was the only way to account for death in this case. Such cases were so often met with, that one could almost say the prognosis as regarded death was worse in cerebral lesions of small size than in those of large size. It was true that in some cases temporary improvement in the mental and motor symptoms took place, but the latter soon returned and led to a fatal result in a brief time. The reporter of this case, like so many other pathologists, fails to recognize that pathological lesions are the result of disease which has existed in the bio-chemical condition. He also ignores the fundamental fact that the seat not the size of a lesion determines its importance. Conditions of the kind mentioned are not infrequent in progressive paresis.

REDUCTION OF HIP DISLOCATION BY INCISION OF CAPSULAR LIGAMENT.—Dr. Polaillon (*Bulletingén Générale de Thérapeutique*, March 15th, 1883) reports a case of this rare surgical procedure, the third of the kind on record. The first one was that of Volkmann, in 1876, and the second by MacCormac in 1878. In both cases reduction failed, and the operation was completed by resection of the upper end of the femur, the patients recovering. In Polaillon's case reduction was accomplished, but the patient, who was a drunkard, with the usual visceral changes caused by alcohol, died of gangrene. The operation was performed antiseptically. The cutaneous incision was an inch and a half, starting from the anterior inferior spine. The muscles and fascia were incised to the same extent, thus exposing the joint. The great trochanter was fixed against the cotyloid cavity, whose upper border was masked by a thick layer of fibrous tissue, extending from the upper border of the neck of the femur to the superior border of the cotyloid notch. This anterior thickened portion of the capsular ligament (the Y-ligament) was divided with a knife, and the finger could be passed between the neck of the femur and the cotyloid cavity, which was free. In spite of this division, an attempt at reduction by manipulation failed, and it was necessary to divide the muscles in front of the joint at their insertion. Further manipulation then brought the head of the bone out of the foramen ovale into a position over the cotyloid cavity, and thence the reduction was accomplished. No artery was wounded during the operation, which lasted three quarters of an hour, and the wound was dressed antiseptically. Four days after, the patient succumbed to a gangrenous inflammation of the deep femoral region. On autopsy, the femoral head was found in the acetabulum. Polaillon thinks that death was not due to surgical interference, the operation being neither very long nor severe. Volkmann made a longitudinal incision, starting from the crest of the ilium and passing over the great trochanter. MacCormac made a Y-shaped incision, involving a great part of the femoral region.

Rapid Development of Vesical Calculus.—Dr. Otis (*New York Medical Journal*) reports the case of a man who had had urinary trouble for sixteen years, characterized chiefly by frequent urination and very little pain. He was examined repeatedly for stone, but none was found. The meatus was divided for possible reflex trouble, but without relief. Finally he became unable to pass his urine without the aid of a catheter. Some months afterward, while using a French gum catheter, it broke, and about four inches of it remained in the bladder. Just before the patient had been examined for stone by a competent surgeon, and none discovered. Two weeks after the accident, Dr. Otis saw the patient. He was suffering from frequent painful urination. Dr. Otis introduced the lithotrite, and was quite certain he had struck nothing but the catheter. But, on opening the jaws of the instrument and closing them, he found that he grasped a stone nearly an inch in diameter. After several crushings he removed an ordinary recent phosphatic calculus with Bigelow's apparatus. After several attempts he succeeded in drawing out the piece of catheter, slightly incrusted with calculus material. In this case the active symptoms came on only after the breaking of the catheter. Repeated examinations previously failed to detect any. Therefore, this large calculus had probably formed within three or four weeks. In a previous case he made section through the rectum into the bladder for rebellious cystitis, and introduced a tube for the passage of urine. Within a few days a very considerable amount of calculus material formed on the tube, and made it difficult to withdraw. This was repeated several times in the course of the case. Relief failed after about six weeks' trial, and apparently on this account. Dr. Sands thought it quite likely stone could form within a few weeks, but this was not perfectly evident in Dr. Otis's case. Dr. Otis had failed to discover it in the first place, and, therefore, it might have been overlooked some time before, and still have been present. Dr. A. C. Post remembered that when it was customary to treat strictures by external urethrotomy, and to leave the catheter in for some time, the instrument would, within a few days, become pretty well incrusted with calculous matter.

Dr. Otis remarked that Dr. Peters had seen but one case known to be very rapid formation of stone. It was in the case of a relative, and within two weeks the stone reached the size mentioned by Dr. Otis. Dr. Weir had removed a hair-pin from a girl's bladder six weeks after its introduction, and the phosphatic material formed on it weighed forty-five grains. He had seen a case in which prosphatic material, deposited on a foreign body, which had remained in the bladder of a man for six months, weighed one hundred and seventy or one hundred and eighty grains. He thought that most of so-called re-formations of calculi originated from a nucleus of an old calculus left in the bladder. In this connection it should be remembered that it sometimes happens that, after lithotomy, phosphatic concretions form in the urethra, interfering with micturition and the passage of a catheter. Dr. S. S. Kahn, San Francisco, reports such a case (*Medical Record*, March 31st, 1883). The perineal wound not having entirely healed, he introduced a catheter, and injected two ounces of a one per cent solution of magnesia boro-citrate, and gave internally a teaspoonful of this solution every hour. Shortly afterward these concretions were passed, in consistence like putty, and in two days the urethra was clear.

ECLAMPSIA NUTANS.—Dr. Gantiez (*Révue Médicale*, March 3d, 1883, reports salaam convulsions in a seventeen-months-old child. The attacks were preceded by a very brief period, during which the child seemed to be a little apprehensive, but not agitated. The eyes were fixed, and there was a slight pallor. Then suddenly anything that was in the hand was cast away, the head was flexed upon the thorax, and the trunk upon the pelvis. The shoulders were slightly raised, and the arms thrown forward with the hands extended, as if to prevent a fall. These followed each other with great rapidity, sometimes as often as thirty times in succession, but usually only eight or ten times. After the attack the eyes filled with tears, and the child's countenance had an expression of astonishment. He was easily comforted, and soon resumed his play. The attacks occurred about eight times a day, began at the age of nine months, and had never missed a day. Potassium bromide had failed in the disease. The case seems to have been one of true epilepsy.

HERNIA REDUCED BY ELECTRICITY.—Dr. Supreneuko (*Wratsch*, No. 17, 1882) reports a case where a right inguinal hernia, strangulated for three hours, resisted half an hour's taxis. A moderately strong induction current was then tried ; the positive electrode pressed against the tumor, the negative was applied first against the lumbar vertebræ, afterward over the umbilicus. The hernia at once diminished, and in less than two minutes disappeared entirely. Dr. Perganin (*Wratsch*, No. 40, 1882) cites the case of an eighty-year-old man who suffered from a strangulated hernia for twelve hours. Persistent taxis altogether failed, though kept up for over two hours. The induction current used for fifteen minutes also failed. The current being still maintained, he again attempted manipulation, and in two minutes the bowel returned into the abdomen with a gurgling sound.

FRACTURE OF THE PATELLA.—Dr. A. Craig, Columbia, Pa. (*Medical and Surgical Reporter*, May 19th, 1883), claims good results from the following procedure : Placing the leg upon an inclined plane, the fragments are approximated, and held as closely as possible by the aid of adhesive strips crossed above the upper fragments, and below the lower one (as the bone is usually broken transversely), and drawn forcibly together, attaching the ends of the strips to the sides of the knee. Next fix a solid compress immediately above the upper fragment, and another in like manner below the lower, with the aid of adhesive strips, and also with the aid of adhesives fasten a double thickness of a rubber bandage, similar to the Esmarch roller, below the lower compress, bring it up over both, and fasten it carefully above the upper one, first drawing upward upon the bandage, and pressing the upper piece of bone down to its normal position. This completed, another adhesive strip should be drawn across the patella between the compresses and under the rubber, and attached to the sides of the knee.

COLIC IN CHILDREN.—Dr. Widerhofer (*Allgemeine Wiener Med. Ztg.*, No. 22, 1882) says: "By the term colic is understood an intestinal neurosis originating from irritation of a chemical or mechanical kind, of the sensory nerves of the intestinal mucous membrane. The irritation arises from either a changed condition of the mucous membrane or the nature of the contents of the canal. Purely nervous colic exists wherein neither irritating ingesta not a pathological state of the canal is present, excitement of the central organs being propagated to the nerves of the canal. In nursing infants, indigestible milk, especially when too rich in fatty matter, causes the colic. When children during the first six months are fed with amylaceous food, before saliva is sufficiently secreted, colic is also produced. This occurs, too, when indigestible matters are swallowed. During the period of lactation emotions of the nurse may induce colic in the infant, by the changes induced in the lacteal secretion. In colics induced by irritation from the contents of the canal, must be included that caused by constipation, by worms, and by foreign bodies. The morbid conditions of the mucous membrane which give rise to colic are enteritis follicu losa, scrofulous and catarrhal ulcers, the worst forms being observed in intussusception. Pure nervous colic appears in diseases of the spinal cord, and may appear in hysterical form, which is not so very rare, and as intermittent colic, with as regular rhythm as intermittent fever. Metallic colic certainly occurs far more frequently in children than it is diagnosed, from the frequency with which toys contain lead. The purely windy colic, produced by gases, distending the canal and irritating the sensory nerves, comes on with attacks of pain and with abdominal distention, ending with expulsion of flatus. These attacks are paroxysmal, are frequently accompanied by clonic convulsions, lasting for some minutes, and even for an hour or more. After cessation of the paroxysm the child is either itself again, or may remain dull and feeble. In the intervals of the attacks no essential cerebral symptoms are perceptible. Prognosis depends upon the cause, but it is a question whether colic *per se* may not prove fatal. Through long duration of the convulsions, through shock and exhaustion of the nervous system, death may follow, and at the post-mortem no anatomical cause of the fatal termination can be shown. Hysterical colic especially affects very excitable children, usually nervous girls, and is characterized by violent pain, a drawn-in abdomen, slight convulsion, and obstinate constipation. Remove the cause is the first measure in treatment In nursing infants, colic is especially apt to occur when the nurse's milk exhibits a large proportion of fat; in such a case the nurse should be changed. In flatulent colic, oleum chamomillæ or fœniculi is of value, with a drop of tincture of opium, as an oleo-saccharate. In metallic and hysterical colic, belladonna is indicated. Intermittent colic should be treated by quinine.

EXCISION OF THE PYLORUS.—Dr. Rydygier (*Medical Times and Gazette*, January 27th, 1883) thus sums up the results of the operations hitherto performed. Sixteen surgeons have operated upon twenty-three cases, all but two of which have been cancerous. In the non-cancerous cases one operation was performed by Rydygier in stenosis caused by round ulcer, which terminated successfully ; and the other by Lauenstein in a case of supposed cancerous tumor, which at the autopsy proved to be one of gangrene of the transverse colon. Of the twenty-three cases, nineteen proved fatal, viz., fifteen some hours after the operation, three on the seventh or eighth day, and one (Billroth's) four months after, from relapse. Of the four recoveries, one belongs to Billroth (no relapse having occurred in six months), one to Wölfler (the patient seeming well at the end of a year), one to Czerny (seven months without a relapse), and one to Rydygier.

ARSENIC IN DIABETES.—Dr. Longeville (*Journal de Therapeutique*, December 10th, 1882) found that arsenic administered to dogs prevented glycosuria from puncture of the fourth ventricle. He has good results from the internal use of Fowler's solution, progressively increased from ten to thirty drops *per diem*, and his results are seemingly corroborated by the benefit obtained from the use of arsenic bromide by Clemmens and Gilliford (*Pittsburg Medical Journal*, July, 1883). The drug last mentioned is given in five to six minims four times daily.

A NEW PROTECTIVE FOR WOUNDS.—Dr. Malinin (*Mediz. Obozr.*) advises the use of the following mixture : ℞ collodium. lb j, castor oil, ʒ j, almond oil, ʒ ss, and carbolized oil ʒ iij–ʒ iv, spreading it over a glass plate smeared with glycerine. The fluid rapidly dries, forming a transparent, thin, soft, and light sheet, which, when used, suffers no alterations from the contact with wound-discharges, and may be employed repeatedly after washing it in a solution.

RETAINED PLACENTA SIMULATING CANCER.—Dr. G. F. French, Minneapolis, Minn. (*Northwestern Lancet*, March 15th, 1883), reports the following case : A forty-two-year-old woman, mother of twelve children, has always had profuse menstruation. Fours years ago had twins ; the placenta was adherent, and had to be detached by force. The attending physician left a considerable portion of it. Since that time the menorrhagia has increased. Two years ago the patient was delivered of her last child, since which time there has been a more or less constant dribbling, at times alarming, so that the attending physician found it necessary to tampon. The patient came under Dr. French's care in December. He found her blanched from loss of blood, and very weak. She could not assume the upright position without fainting. Mingled with the blood escaping from the uterine cavity was much watery and foul-smelling purulent discharge.

Digito-vaginal examination threw no light on the case. No tumor was to be felt ; the uterus was neither enlarged nor fixed, but the os so patulous that dilatation was unnecessary. The foul discharge and exhausted state of the patient caused a suspicion of the existence of cancer. Against this was the complete absence of pain, and the mobility of the uterus, as well as its small size, were grounds for hopefulness. Exploration of the uterine cavity eliminated the possibility of any pedunculateed tumor. In order to arrest the hæmorrhage, which was still unabated, and to throw greater light on the farther diagnosis of the case, Dr. French scraped over the surface of the entire uterine cavity with a Sims's curette. The instrument did not meet with the usual resistance common to cases of granular polypoid degeneration, but brought away a pulpy substance, which was found to be *placental tissue.* The operation was followed by a severe chill, and the temperature next day was 104° F. This disturbance in forty-eight hours entirely disappeared. There has not been the slightest return of hæmorrhage, and no pain attended or followed the operation. The patient eats and sleeps well, and there is no longer any doubt of a speedy and complete recovery.

STRENGTH OF THE UMBILICAL CORD.—At a meeting of the Irish Academy of Medicine (*Lancet*, January 27th, 1883) Dr. Neville read a paper on Breaking Strain, or Tensile Strength of the Umbilical Cord, founded upon one hundred and twenty-five experiments made by him on the fresh cords of full-time children. Only the 12–14 inches of the cord nearest to the placenta were tested. In 100 cords from which the blood had been allowed in great part to escape before subjecting them to strain, the average tensile strength amounted to 12.5 lb. ; one cord bore a strain of 27lb. ; nine cords a strain varying from 20lb. to 25lb. ; eighteen of from 15 lb. to 20lb. ; forty-eight of from 10lb. to 15 lb. ; twenty-three of from 5lb to 10lb. ; and one of less than 5lb. In the case of twenty-five cords tested without allowing any escape of the blood contained in them, the average breaking strain was found to be very little above 11lb., or nearly one and a half pounds less than in the other case. The cords of males were found to have an average strength of 1.5lb. more than those of females ; multiparity made no appreciable difference in strength. Dr. Neville considered a gradual drag as affecting inversion of the uterus. Assuming as conditions a strong funis abutting at or near the centre of the fundus on a firmly adherent placenta, and a flaccid pliable uterus wanting in contraction and retraction, he thought improper tractions on the cord very likely to terminate in inversion. Dr. Macan considered that there could be no doubt that inversion might readily be effected by pulling on the cord under the circumstances laid down in the paper. He would lay special stress on the fact that traction, in order to result in this way, should be made at right angles to the uterine wall, at the site of placental attachment. This only could happen when the placenta had a fundal attachment. Dr. Atthill compared inversion from an accident of delivery with that which resulted from an intra-uterine tumor. In one case the tumor, and in the other case the placenta, would always be found attached to the fundus. The fundus was the part of the uterus most susceptible of irritation. Irritation would set up contractions, and these would expel either the tumor or placenta, and along with either might invert the uterus. Pulling on the cord might facilitate the inversion, but could not act as a sole cause of this accident.

SUTURE OF THE FOREARM EXTENSOR TENDONS.—Dr. F. Lange reports a case (*New York Medical Journal*) of a lady who fell from a height, struck against a china umbrella stand, cutting the extensor tendons of the left forearm. Two weeks afterward the wound was almost healed, there was extensor paralysis involving the third and fourth fingers, only the last two joints moving through the action of the interossei. Four weeks after Dr. Lange made a longitudinal incision. The extensor tendons of the third and fourth fingers, and to the index finger, had been divided. The extensor indicis proprius was not injured. The divided extensor tendons, separated to a distance of almost one inch and a half, were brought together and sutured with antiseptic silk. The hand was then put in a position of superextension, and antiseptic dressing applied. The sutures were removed at the end of one week, when the movements of the fingers were quite satisfactory, and further improvement was probable.

NERVE-STRETCHING.—Dr. J. A. Wyeth (*American Journal of Neurology and Psychiatry*, November, 1882) concludes that: First, a simple operation, comparatively free from danger, will afford temporary relief from pain so atrocious that even *temporary* surcease justifies the risk and its repetition. Second, that the muscular ataxia of *tabes dorsalis* is very slightly, if at all, relieved by this operation; certainly not enough to justify its performance.

RUPTURE OF THE HEART.—Dr. S. Coupland (*Lancet*, December 2d, 1882) describes a case of survival for forty hours, after a rupture half an inch long in the posterior wall of the left ventricle.

PHOSPHORUS POISONING.—Dr. M. S. Danillo (*Archives Générales de Médecine*, January, 1882) concludes respecting the patho-anatomy of the spinal cord in poisoning by phosphorus, that: First, changes in the spinal cord from phosphorus intoxication belong among the myelitides. Second, in acute phosphorus poisoning, the central nervous system contains only depôts of pigment of hæmatic origin. Third, large doses of phosphorus cause a central myelitis involving the entire length of the cord, with extravasation and pigmentation. Small and frequently repeated doses occasion a diffuse myelitis. Fourth, certain nervous phenomena observed during life as consequences of phosphorus intoxication, result from either one of these myelites. In poisoning by phosphorus, attention has been chiefly devoted to the liver, but it would seem that the central nervous system also requires extended chemical examination.

FUNCTION OF THE BILE.—The general opinion is that the bile possesses an anti-fermentative action. Dr. F. Röhmann (*Breslauer ärzsl. Zeitsch.*, No. 7, 1882) had two dogs with a fistula of the gall-bladder; to both he gave for their food nothing besides meat. The fæces were grayish-white, dry, easily broken up, and mainly inorganic substances. In the urine of neither could be found any increase of ethereal sulphuric acids, which should have been observed in the intestinal canal in case putrefaction had been augmented. A third dog with a fistula of the same kind continued in a normal condition when fed for a long time with toasted white bread; but when put on an exclusive meat-diet, diarrhœa set in, which happened also when fat was added to his food. Fat under such circumstances is not absorbed, but excreted in the fæces, mainly in the form of soap and free fatty acids.

NAPELLINE seems destined to be a valuable hypnotic. Laborde (*Annales Médico-Psychologiques*, January, 1882) found that it produces calm slumber in animals. In man it has been tried in doses of nine-tenths of a grain, in facial and intercostal neuralgia and sciatica with very good results. The alkaloid is amorphous and readily soluble in water, alcohol, or ether.

NYMPHOMANIA AND HEMORRHOIDS.—Dr. W. H. Hardison (*Medical and Surgical Reporter*, December 30th, 1882) related a case of nymphomania, which caused a respectable young married woman to masturbate and to so deport herself as to cause the greatest family uneasiness. All drugs were powerless to relieve her. It was finally discovered that she was afflicted with very sensitive hemorrhoids, fissure of the anus and constipation. Operations and attention to the bowels so thoroughly relieved her that she almost went to the other extreme.

LARYNGEAL PARALYSIS AND SYPHILIZATION.—Dr. Beverly Robinson (*Archives of Laryngology*) has reported a case of laryngeal paralysis, illustrating the effects of syphilization by Böck's method. The patient, a German, aged forty-two, had lived in Copenhagen. Twenty-five years before a chancre appeared about ten days after coition. Three weeks later, an eruption on the body appeared. He went to Böck's hospital, and was put under treatment. He was first inoculated in three places on the chest with syphilitic virus; six days later the vaccination was repeated; it was then repeated every third day, three vaccinations each time. They were made upon the chest, arms, and legs. Gradually the inoculation effects became weaker, and finally the virus produced nothing but a superficial scab. The whole process lasted about three and one-half months. During that time he was obliged to lie flat on his back; he suffered intensely, and would not, he said, "go through it again for a million dollars." Since that time, however, he had been perfectly well, and had never noticed any symptoms of having syphilis, although he had taken no medicine. He had married, and his wife had had several healthy children, and no miscarriages. Examination showed that the fauces are intensely congested, and marked by a large number of varicose veins. The uvula large, infiltrated, and evidently quite relaxed. The epiglottis was red; the posterior third of the true vocal cords had a pink coloration. In phonation, the free margin of the left vocal cord presented a half oval excavation very appreciable to the eye, as reflected in the small laryngeal mirror. This excavation was probably due to paralysis of the tensor muscles on the same side of the larynx. The interesting feature in the case is whether the intra-laryngeal paralysis be proof of syphilitic deposit in the intrinsic muscles of the vocal organ. In view of the limited localization of the paralysis, of the man's general excellent physical condition, and of his inability to recognize elsewhere any pathological lesion capable of explaining the localized laryngeal paralysis, this must be received as the most *probable* explanation, notwithstanding the fact that the patient had only had few and very mild symptoms at any time, of constitutional syphilis.

TREATMENT OF BUBO.—Dr. H. Kümmell (*Centralblatt für Chirurgie*) employs a dressing of bichloride of mercury after the extirpation of inguinal bubo. He removes the whole group of glands. After extirpation of the glands the wound is thoroughly dried with sponges, drainage-tubes being used, if necessary. The edges of the wound are then approximated by sutures, except at the lower edge, which is left slightly open for drainage. The surface over the wound cavity is covered with gauze pads soaked in a bichloride solution, or with little ash bags, one or two larger bags being placed over all. Firm pressure is then made with a roller bandage. After ten days, dressing is removed and a second one applied, if necessary. Disturbance of the wound by flexion of the thigh is prevented by a short splint extending from the anterior superior spine of the ilium to the middle third of the thigh. Where an ulcer already exists, the infiltrated parts are removed by the scissors and sharp spoon, and the cavity filled with sand wet with a solution of the bichloride, and covered with a few layers of gauze. Should the discharge saturate the outside dressing, this is removed and fresh gauze applied. The sand, however, is not removed, but is wet again with the solution. Dr. Kümmell has had excellent results in the treatment of bubo by this method. Where the skin is still sound, union by first intention is usually obtained. Where ulceration has occurred, the wound heals rapidly by granulation with a very moderate amount of suppuration.

VIBURNUM PRUNIFOLIUM IN CYSTITIS.—Dr. F. W. Brown (*Medical Age*, July, 1883) claims very good results from the use of fluid extract of blacknow in cystiti of old people, in drachm doses.

NEPHRORRAPHY has been performed by Dr. David Newman, Glasgow, for the first time in Great Britain (*Lancet*, April 28th, 1883). The patient, a female, suffered from floating kidney, which Dr. Newman determined to treat by fixation. The kidney was reached from behind, its capsule stitched to the edges of the incision, and several deep button-sutures were passed through the tissues and kidney-substance. The patient recovered satisfactorily, and is now relieved of her former pain.

RAG WEED IN HEMORRHAGE.—Dr. Hill, Goldsboro, N. C. (*Medical and Surgical Reporter*, June 23d, 1883), has used ambrosia trifida, or ragweed, in epistaxis, pulmonary and uterine hemorrhage, hemorrhage from the bowels, hemorrhagic diathesis, etc., and found it of great value.

ENTERO-PUNCTURE IN INTESTINAL OBSTRUCTION.—Dr. Giulio Dozzi (*Gazz. Med. Ital. Prov. Venete*, September 23d, 1882) relates the case of a seventy-year-old woman who, after eating a large quantity of watermelon seeds, suffered from obstruction of the bowels. Purgatives and injections had no effect. Meteorism was enormous. He determined to try entero-puncture, using trocar No. 2, Dieulafoy's aspirator. Four punctures were made, two in the right iliac region, the third in the left upper fourth, and the fourth in the left lower fourth. From three punctures issued an immense quantity of gas ; from the fourth no gas, the trocar being plugged with fæcal matter. A dose of oil given the same evening procured four copious evacuations. The patient made a good recovery. One puncture gave rise to a small abscess. Peristaltic action was evidently prevented by the enormous quantity of gas from decomposition of the retained fæces.

VENESECTION.—Dr. Broadbent says that in pulmonary congestion from pneumonia, severe bronchitis, or mitral stenosis, especially when attended with considerable dilatation of the right heart, as denoted by a systolic tricuspid murmur and venous pulse in the jugular, venesection affords immediate relief. In these cases venesection to so small an amount as eight ounces causes a steadier and fuller pulse, and often relieves dyspnœa to a wonderful degree. It is never indicated in aortic disease or in mitral regurgitation. Venesection often temporarily relieves the distress from pressure effects in aortic aneurism. In convulsions, associated with increased arterial tension, venesection is the best treatment, whether convulsions be uræmic or proceed from other causes. In apoplexy, with great cyanosis and stertor, without failure of the pulse, venesection often does good and is without danger.

PHTHISIS.—Dr. W. Porter, St. Louis, Mo. (*Cincinnati Lancet and Clinic*), concludes 1. Phthisis is a specific disease from a specific cause. 2. Phthisis may be produced by absorption of tuberculous matter in contact with the mucous membrane of the air-passages or intestinal tract. There is also evidence that the energy of this tuberculous matter is due to germ development and progression. Hence the value of antiseptic influence in the treatment of phthisis, not only in the later stages during pus-production and absorption, but also in the earlier process of infection. One great demand is for that which, by local and internal use, may meet and destroy the septic agencies of disease. Such a remedy must be effective, unirritating and non-poisonous, susceptible of ready dilution and easy absorption, and withal inoffensive in odor and taste.

SELECTIONS.

ANSWERS TO PRACTICAL QUESTIONS ON THE SUBJECT OF DIPHTHERIA.—The *Therapeutic Gazette* has concluded its collective investigation of diphtheria, and in its issue for July gives the following editorial summary and conclusions from a large number of replies to its questions on the subject.

1. *What is your opinion in regard to the local or constitutional nature and treatment of diphtheria? and* 2. *On what clinical facts, observed by you, do you base your opinion?*—The nature of the replies to the first of these queries has satisfied us that it is somewhat ambiguous. It was intended to elicit an expression on the questions: 1. Of the local or constitutional origin of the disease, and 2. On the comparative value of local and constitutional treatment. While a number of our correspondents have so interpreted it, some have not. Among the former we would state, without "polling the vote," that the house is quite equally divided, as regards those whose opinions are positive. There are some very decided expressions of opinion on either side, and it must strike the reader as peculiar that gentlemen of equal ability and prominence should place themselves thus diametrically opposite, on a question which must be decided purely on the results of observation. We are constrained to believe that these gentlemen themselves, when they see the direct opposition of their convictions to those of physicians to whose ability in all the requisites of the scientific practitioner they are prompt to defer, will inquire for some explanation which may harmonize their differences on this question. Those who regard the disease as primarily local adduce strong evidence to sustain this conception of it, and their opponents fortify their position with proofs none the less worthy of credence. What is more natural under such circumstances than to hold that both may be right? And we think the facts tend clearly to show (1) that diphtheria may, and probably most frequently does, exist as a purely local affection; (2) that it may be first local and then constitutional; and (3) that the local affection may be secondary to grave constitutional infection. No physician, be he the sternest of advocates of the local origin of the disease, but will concede that constitutional disturbance may be violent before any local trouble is discernible; and on the other hand, the existence of a membrane without the slightest rise of temperature, acceleration of pulse or other symptom of constitutional disturbance is so frequent as to constitute a large percentage of the cases met with during severe endemics. The existence of the diphtheritic sore throat, or, as it has been called, herpetic tonsillitis, and its close relation to the true membranous diphtheria, are facts which cannot be controverted. A nurse in the Michigan College Hospital, of this city, was attacked with herpetic tonsillitis last fall, before the endemic had developed sufficiently to create a suspicion in the case of an isolated attack of sore throat. Not the slightest perceivable trace of membrane presented. Before the intense redness of the membrane had subsided, she visited her home, thirty miles distant, where there was no diphtheria, neither had there been for over a year. In a week her sister was attacked with a typical case of diphtheria, and in another week her brother, a young man of twenty, contracted it. The latter case proved fatal. Last winter, a lady fifty-two years of age contracted a sore throat while nursing a child five years of age, who died of diphtheria. This lady's throat, although intensely red and sore, presented not the slightest suspicion of a membrane or patch. In about a week the throat trouble had subsided, but in the third week,

dating from the attack, paralysis of the constrictors supervened, and was relieved only after a month's treatment with strychnia and electricity.

Whether diphtheria is primarily a local disease, and subsequently a constitutional, or *vice versa*, or whether it remains purely a local disease, seems to depend on some anatomical peculiarity or some special susceptibility on the part of the one attacked. The child with the large spongy tonsils is most liable to have constitutional symptoms first, the virus apparently being thus afforded a ready entrance to the circulation. In the normal condition of the tonsil the virus is not so apt to effect an entrance, and its first action is on the mucous membrane of the throat, which it irritates and inflames, and places it in a condition which favors subsequent absorption with its causation of the constitutional disease. The nature of this poison we will consider later on.

3 *and* 4. *What is your opinion as to the contagiousness of diphtheria? What facts in your experience bearing on this question?*—The opinion of the profession, as manifested in the replies to these questions, greatly preponderates on the side of the contagiousness of diphtheria. There is, however, considerable conflict of opinion on this point also. Careful and candid observers are arrayed diametrically opposite each other on the question, and it is, therefore, but fair to presume that under different circumstances the disease may be contagious and non-contagious. In considering the contagiousness of a disease, account must be taken of the condition of the person exposed. The seed may fall by the wayside where it never takes root; it may fall on stony ground where its development is but partial; and it may fall into soil peculiarly adapted to its growth, where it taken root and brings forth an abundant fruition. We know that occasionally unvaccinated persons have been steadily exposed to the contagion of small-pox, and yet have escaped unscathed; and again, there are those whose susceptibility to the virus is so strong that successful vaccination and revaccination are not sufficient to prevent a more or less modified form of variola. May the case not be precisely similar in the matter of diphtheria? We think that while the evidence is quite conclusive that diphtheria is a contagious disease (using the term in its broadest signification, which embraces infection), it is not what might be termed very actively contagious; it is a seed which requires very favorable conditions to make it germinate. In the absence of these conditions it may fall in vain, as far as propagating its kind is concerned. What are the conditions favorable to its growth? One of our correspondents insists that the virus is never propagated in a healthy mucous membrane, and that the most effective prophylactic is the taking of effective precaution against the occurrence of catarrhal inflammation. While we shall claim, under another head, that inflammation of the buccal mucous lining, and particularly that of the posterior parts of the cavity is an effect of the diphtheria poison rather than a cause of the growth of the membrane, we cannot but admit that the previous condition of these parts has much to do with the question of the contagiousness of the disease in individual cases. As already intimated the anatomical and the anatomico-pathological configuration of the tonsils and adjacent parts has much influence on the question of predisposition in a given case, as it also has on the course of the disease. The child with the enlarged tonsils with patulous follicles, either through chronic hypertrophy or acute congestion, furnishes, we believe, an exceptional soil for the deposit and germination of the diphtheria poison. To anticipate the question of the prophylaxis of the disease, it is not unreasonable to suppose that the great value of the tincture of the chloride of iron and the potassic chlorate is traceable quite

as directly to the local effect of this combination on the mucous membrane of the vestibules of the respiratory apparatus as to any constitutional effect it is supposed to have. Doubtless, too, the virulence of the poison is intensified by the conditions under which contagium of kindred nature is made more active, viz., filth, bad hygiene, defective ventilation, etc. The influence of age must also be considered in connection with the question of contagion. The susceptible period is between the ages of five and six, and the occurrence of the disease after ten is exceptional.

5. *What microscopic examination, if any, have you made of the diphtheritic membrane?*—The replies to this question have been comparatively few, but they are exceedingly interesting. The detailed report of microscopical examination by Dr. J. H. Kidder, U. S. N., is a very valuable contribution to the literature of the vexed question of the existence of specific micrococci in diphtheria. Drs. J. N. Salisbury and Ephraim Cutter* also give a description of the *mucor malignans* which they hold to be the specific etiological factor in the disease. With a few exceptions the other contributors have made no microscopical examinations, and, practically, we have before us only the reports of the three observers named. These reports differ very diametrically, and we are at a loss in this instance to introduce any harmonizing element. Dr. Kidder's examination of the membrane revealed micrococci which differed in no sensible characteristic from those which may be found in healthy saliva, while Drs. Salisbury and Cutter report the presence of the *mucur malignans*, which they hold to be characteristic, and the specific cause of diphtheria and scarlatina. In this opinion these latter gentlemen, as far as our knowledge goes, stand alone among the microscopists of the day. Dr. Kidder's observations are, we think, in very full harmony with the preponderating opinion on the subject, and confirm the growing conviction that the micrococci which have been discovered in the membrane are not peculiar, and that the only causative relation which they bear to the disease is that of carriers of the virus, the latter being an entity which has thus far escaped the power of the lens to make it visible. The claims which have latterly been made that constitutional diphtheria is "bacteræmia," or the charging of the blood with bacteria or *micrococci diphtheritici* is unsupported by any sufficient microscopical revelation. The suggestion of Dr. Kidder that the colorless granules which he detected are due to the breaking up of the leucocytes under the influence of the diphtheritic poison, points, in our opinion, to a more intelligent pathology of this disease than has yet obtained.

The evidence is quite conclusive that when micrococci are found in diphtheritic blood they have entered it after it has been withdrawn from the circulation. Wood & Formad in their experiments carefully examined the blood of the rabbits on which they experimented, and found no micrococci. They drew the blood directly from the jugular veins and examined it at once, but when after the lapse of a few minutes the post mortem was concluded, and the heart opened, the blood therein was found to contain an abundance of these low organisms.

The conclusion from this investigation of diphtheria is that it is impossible to make a diagnosis of diphtheria by any microscopic examination of the membrane. There is nothing in the nature or structure of this membrane which affords any grounds for believing that it differs from the exudate which may be produced by the application of cantharides, ammonia, or other chemical irritants. The inference from this fact, and from facts of clinical observation, is that the diphtheritic virus is of a gaseous and intensely irritant nature, producing, by contact with the throat, an intense local inflammation, and capable, under a favorable condition of the parts, of direct entrance into the circulation, where it operates to the disintegration of the blood.

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* The contributions of these gentlemen will appear in the published collection of replies.

6. *What measures, if any, have you adopted by way of prophylaxis, and what success has attended those efforts?*—Prophylactic treatment of a medicinal nature does not seem to have been very generally employed. Isolation is, with very few exceptions, deemed essential, and that, too, singular as it may seem, by those who assert the non-contagiousness of the disease. The necessity of the diluting influence of fresh air and the destructive effect of oxygen on the *materies morbi*, are recognized in the universal insistence on ventilation as a means of prophylaxis. The value of a proper hygiene is also recognized, while a few of our correspondents insist on what we should regard as a precaution of paramount importance, viz., careful attention to the mucous membrane of the throats of the well during the prevalence of the disease. Chronic sore throat, pharyngitis or tonsillitis, and large flabby tonsils are standing invitations to the disease.

As medicinal means of prophylaxis, the tincture of the chloride of iron, chlorate of potassium and quinine, are spoken of as of unequivocal value. Their *modus operandi* is not hinted at, but besides the tonic influence on the blood of the iron and the quinine, thus increasing the power of the system to protect itself against the virus, together with the well-known influence of the potassium salt on mucous membranes, they are probably largely beneficial through their local action on the parts over which they pass on their way to the stomach. Whether the thorough local application of the combination would successfully take the place of their internal exhibition, there are no facts to determine.

7. *What local treatment have you found most efficacious?*—It follows, quite necessarily, from the views suggested by the opinions on the question of the local or constitutional origin of diphtheria, that the direct value of local treatment, as regards diphtheria proper, must be largely dependent on the circumstance of the entrance or non-entrance of the specific cause into the circulation. In cases in which it has been intercepted in its way to the blood and has set up its local inflammation, early attention to the local disturbance is manifestly of prime importance. Should the poison, however, have directly entered the round of the circulation, the value of local treatment must be subordinate to the constitutional. But in either case the local trouble may be the source of grave complications through the unabsorbed virus or the septic matter which may be taken up from it. In any case, therefore, local treatment of the diphtheritic exudate is so important as scarcely ever to warrant its neglect.

The list of remedies recommended as local applications is a very long one, and our space forbids even their enumeration. But although the number is large, it does not embrace any great diversity, when the physiological action of the drugs is considered. A division into three classes would leave but very few of them unclassified. These three classes would be antiseptics, disinfectants, and astringents. It is important in this connection to recall the distinction, which seems to have been more or less lost sight of, between antiseptics and disinfectants. By an antiseptic is properly meant an agent which simply prevents putridity, and has nothing to do with destroying the products of putrefaction. A disinfectant, on the other hand, while it may also arrest putrefaction, is chiefly valuable because of its power of destroying the morbific effluvia from decomposing matter. It is well known that certain agents, as carbolic acid, for instance, are improperly employed as disinfectants, their effect being rather to conceal the odor of noisome exhalations than to neutralize them.

From such knowledge as we possess, the diphtheria poison is a gas, or a combination of gases, generated by the decomposition of organic matter. The relation of effect and cause between it and sewer gas has often been urged. Sewer gas consists of sulphuretted hydrogen, sulphide of ammonium, carburetted hydrogen, oxygen, nitrogen, carbonic acid gas, and organic matter. Of these ingredients, sulphuretted hydrogen and sulphide of ammonium are extremely poisonous. Experiments on rabbits have shown them to have a very destructive influence on the hæmoglobin of the red blood corpuscles. The agent which shall successfully neutralize this gas must be a true disinfectant, and not a mere antiseptic. In the remedies as recommended, the decided preference is given to agents of the former class, experience rather than *a priori* reasoning, doubtless, having determined this preference.

Another object of the topical treatment of diphtheria, is to allay the local inflammation and to diminish the absorptive power of the surface with which the virus lies in contact. To accomplish this, the application of an astringent would be very naturally suggested, and in the experience of our correspondents, the value of astringents has been vouched for.

If we were to select an agent which should combine in itself the essentials of treatment, according to the theory we have advanced, viz., disinfectant and astringent principles, we should find few if any which would answer our purpose better than the tincture of the chloride of iron, the very agent the testimony in favor of which so preponderates in the replies to our question covering the local treatment of diphtheria. The tincture of the chloride of iron is also antiseptic, limiting the growth of bioplasm, according to Beale, and thus checking necrobiosis. Its disinfectant power has been demonstrated by an experiment in which half a gallon sufficed to disinfect 6600 gallons of polluted water. It required three pounds, avoirdupois, of chloride of lime and thirty-six and one-third pounds of lime to produce the same effect.

Our space prevents us from discussing *seriatim* the individual local agents, recommended. Let it suffice to recapitulate :

Local treatment demands a combination of disinfectant and astringent principles. The tincture of the chloride of iron combines these very successfully, and other agents or combinations of agents must compare with it in efficacy in proportion to their success in combining these principles. As yet, no agent has been suggested which more satisfactorily effects this combination. When it has been discovered, it will take the place of the tincture of the chloride of iron.

8. *What general treatment has been most successful in your hands?* From amid the confusion of the recommendations of different ingredients, in reply to this question, there comes up in pronounced tone a demand for a combination of blood tonics, cardiac stimulants, and eliminants, while in a tone less accentuated, but still distinct, the necessity for diminishing the fibrinity of the blood is urged. Of the numerous means to these ends, the tincture of the chloride of iron, alcohol, and calomel stand chief. The testimony in favor of these three drugs is confirmatory of views of the pathology of the disease which have been suggested.

Iron. The effect of the *materies morbi* is unquestionably to deprave and disorganize the blood—to cause leucocythæmia. We know of no remedy in this condition, regardless of the cause, equal to the muriate tincture of iron. It is well known that iron not only augments the quantity of red coloring matter in the red corpuscles, but actually increases their number. While this effect is not noticeable on normal blood, it is very marked in the condition which obtains in anæmia or leucocythæmia. In proportion to the richness of the blood in hæmoglobin is its power to carry oxygen, and it is further claimed that the ferrous salts have the power of converting oxygen into ozone. It was, probably, because of the belief which formerly obtained, that the chlorate of potassa parted with its oxygen in the blood that this salt was formerly given in such large doses in combination with muriate tincture of iron. The explosion of this view of its action, associated with its undoubted ill effects on the kidneys, has caused it to be much less freely used than formerly. The fact that much larger doses of the tincture of the chloride of iron than can be absorbed are found necessary in diphtheria, as is also the case in erysipelas, would seem to argue the added influence of the acid in the combination. Small doses of this preparation at long intervals are useless. Another effect of this preparation is noticeable on the nervous system. Referring to its action on the system in diphtheria, Dr. Jacobi, in his excellent Treatise on Diphtheria, says: "It has been found that of all the preparations of iron, the chloride possesses the power of stimulating the nervous system. Possibly this effect may be traced to an increase of the arterial pressure in the nerve-centres. It has been said that this effect has been vividly illustrated in certain forms of chlorosis. If this be true, iron would be all the more indicated in diphtheria, since it would act as a prophylactic against a series of nervous phenomena that so frequently present themselves, both during and subsequently to the diphtheritic process."

Alcohol. The value of alcohol in diphtheria seems to be one of the most firmly established points in its treatment. The only limit to the amount necessary seems to be the capacity of the patient to take it short of its intoxicating effect, and the quantities which are reported as having been given to children without producing this effect, are well-nigh incredible. We shall not attempt to discuss the *modus operandi* of alcohol in such doses, further than to hint at its influence in reducing body heat, and its effect in retarding tissue metamorphosis. It is quite possible that its beneficial action in this disease is as directly due to these latter effects as to the stimulating properties.

Calomel. The testimony to the value of this drug in diphtheria, though coming from comparatively few witnesses, comes with such force and directness as compels attention. Its *modus operandi* being scarcely hinted at, we are left to conjecture the action through which it works the remarkable results claimed. These reports following so closely on the claims for specific properties of the drug by Dr. Reiter, and reproduced in the *Gazette* for November, 1882, will have the effect of directing renewed attention to it. Dr. Reiter attributed the disease to an excessively fibrinous condition of the blood, due to suspension of the fibrine-destroying function of liver, which function he sought to restore by the exhibition of enormous doses of calomel, twenty grains as a commencing dose, to be followed every hour, in a child eight years of age, by ten grains until half an ounce has been taken. He declares that neither excessive catharsis nor emesis follows this use of the drug. We shall not stop to argue the question of the action of calomel on the liver. It is, however, a recognized effect of mercury to decrease the fibrinity of the blood and to diminish its coagulability. It must, moreover, in the doses given act as a decided depurant. It must, however, require considerable fortitude on the part of the practitioner to continue the large doses recommended by Dr. Reiter, and we are pleased to note that the practice of our correspondents is to discontinue these large and frequent doses as soon as the stools have assumed the greenish color characteristic of free catharsis by calomel. It would seem to us that its use should also be confined to sthenic or more dangerous cases, and that its indiscriminate employment, especially in asthenic types of the disease, must be bad practice.

Carbolic acid. This is the only other agent recommended which we shall take the space to refer to. It enters into the formulæ of a few of our correspondents for local application. According to theory of the nature of diphtheria, as deduced from the replies received, it is a useless application, and in the light and knowledge of the dangers of carbolic acid poisoning through absorption from the mucous membrane, it is worse than useless, it is positively harmful. It is antiseptic, checking putrefaction, and suspending the amœboid movements of the white blood corpuscles, but it is not a disinfectant, and therefore has no effect on the gaseous principle which we have assumed to be the virus of diphtheria. In the light of Dr. Cutter's experiment, in which after immersion of a piece of diphtheritic membrane for three years in a much stronger solution than it would be judicious to apply to the living membrane, the bacteria were still found active, carbolic acid must appear to those also who hold to the micrococcus diphtheriticus, to be lacking of value.

SUMMARY.

We have endeavored in the foregoing to give an analysis of the views of our correspondents, with the comments which they have suggested, but have been obliged, through limitation of space, to pass over a number of interesting points.* To briefly summarize our conclusions we would state :

1. Diphtheria may be either local or constitutional in its origin.
2. It may continue as a purely local or as a purely constitutional disease, or the local disease may be followed by constitutional infection, or *vice versa*—the disease in the vast majority of instances manifesting itself in both the constitutional disturbance and the local affection.
3. The comparative value of local and constitutional remedies is dependent upon the nature of the affection in individual cases.
4. Diphtheria is a contagious disease, but not liable to attack a healthy mucous membrane or to find an entrance through it into the circulation.
5. The contagium of diphtheria is not a micrococcus, nor is it visible under the most powerful microscope yet manufactured.
6. The contagium of diphtheria is of a gaseous nature (the result of decomposing fæcal and other organic matter), and can be neutralized only by a true disinfectant, and not by an antiseptic.
7. The best local application is the tincture of the chloride of iron. It may be supplemented by other applications according to the indications in individual cases.
8. In a typical case of sthenic diphtheria, administer large (10 grains) and frequently repeated (hourly) doses of calomel until the characteristic stools are secured. Following this give large doses of the tincture of the chloride of iron every two hours, and administer alcohol within the limits of intoxication. In asthenic cases the calomel should be omitted and the main reliance placed on the iron and alcohol.—*Therapeutic Gazette.*

COMMENTS BY GAILLARD'S JOURNAL.

Readers will be deeply interested in this practical paper, but chiefly in the summary.

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* We shall touch on these and enlarge on those already touched on, in the volume in which the full replies are to appear.

This summary is open to manifest, just, and unavoidable criticism, and as it is in reality the substance of the replies given, these replies are, unquestionably, for the most part, untenable in the views taken, and therefore in the conclusions formed.

That "diphtheria may (1) be either local or constitutional in its origin" is a very vague and unsatisfactory statement. Whether its poison is introduced into the blood by direct contact with the mucous membrane, or is introduced into the blood through the pulmonary capillaries, is immaterial; in both cases the origin is local in character. Just as turpentine, introduced by direct contact or by inhalation, produces identical symptoms, so is it with the poison of diphtheria; and it therefore tends to mislead the inquirer to say that diphtheria may be local or constitutional in origin. For whether the virus be introduced (by contact) through the outer cutaneous surface, or (by contact) through the mucous membrane of the mouth, or through the pulmonary capillaries by contact of the poison with the pulmonary cells, the disease is *only local in origin.* To say that (1) it may be local or constitutional is unphilosophic, and tending to mislead inquiry.

That "it may continue as a purely local or constitutional disease" (2) must surely be untrue. In cases of diphtheria where paralysis has supervened when there has been no constitutional disturbance manifested, the disease may appear to the superficial observer as having been local only in character; but surely in the presence of a diphtheritic paralysis, no one would say, even though there had been no constitutional disturbance, that the case had been local only in character. More than this, it is a fact familiar to all that in the gravest and even in fatal cases of diphtheria there has been no constitutional disturbance; but no one would surely say in such cases that the disease had been local only in character. It is surely true, contrary to the statement (2) in the summary, that wherever diphtheria prevails, the constitution, *i.e.*, the system, is affected. Such a pathological entity as "local diphtheria" or "diphtheria as a purely local disease" does not exist.

Few persons would or could admit the truth or even the possibility of truth in the (3) third conclusion given in the summary, that "the success of remedies depends upon the nature of the affection!" The symptoms may differ in individual cases, but the nature of the disease is fixed. Just as is the case in variola, or vaccinia, or scarlatina, etc., the way symptoms vary, but the nature of the disease is unalterable. It is an unwarrantable and incorrect conclusion.

That diphtheria, as is stated in the (4) conclusion of the summary, "is not liable to attack healthy mucous membrane, or to find an entrance into the circulation through it," few persons will or can believe. Persons in perfect health have received diphtheritic sputa into the eye, and have died, after severe suffering, of the disease. And persons at funerals have often contracted the disease and died of it. To assume that only diseased eyes and diseased lungs so suffer is unphilosophic, and contrary to the demonstrations of almost unlimited testimony.

That the contagium of diphtheria "is not a micrococcus" (summary 5), and that it is "gaseous nature" (summary 6), is a begging of the question; the testimony, so far, does not teach a demonstrable conclusion, but it certainly does not teach the conclusion set forth in the summary. In the (7) summary, tincture of the chloride of iron is stated to be "the best local application." This statement and that in the concluding paragraph of the summary (8), that the disease is best controlled by calomel, iron, and alcohol, it is not necessary to criticise. They are merely dogmatic in character.

The paper is, nevertheless, highly interesting, instructive, and suggestive.

So far, all of the writers and teachers on this subject are like the commanders of voyages "to the North Pole;" some are wrecked; some destroyed; some ruined; some evince marvellous folly; some are content never to undertake the work again; but no one has succeeded in his attempt.—E. S. G.

ON CYSTOTOMY, BY A MODIFIED LATERAL METHOD IN CERTAIN CASES OF ENLARGED PROSTATE. By REGINALD HARRISON, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

Within recent years, I have had cases where it has been found expedient to make an opening into the bladder from the perinæum, in preference to other measures, the usual means of relieving obstructed micturition, or the consequences arising therefrom, having failed or proving insufficient.

I may premise by stating that, apart from those cases of obstruction complicated with circumurethral abscess, no such proceeding has been undertaken on the sole ground that catheterism was impossible, though some difficulty connected with the performance of the operation has, with other circumstances, usually been present.

The selection of a method for opening the bladder should have reference only to the object to be attained, or the contingencies that may arise. If, for instance, we desire merely to introduce the finger into it, as a preliminary to extracting a small stone, the median operation answers perfectly; while, if a larger stone, or an unknown quantity of anything, has to be dealt with, the lateral incision will, as a rule, be preferable.

It has been advanced by those who favor the median incision, which is practically an urethrotomy, that it is both simple and safe; its admitted disadvantage lies in the comparatively small space it provides for manipulating and extracting; while, on the other hand, the lateral incision, though affording more room, is considered to be attended with an increased risk and a greater degree of difficulty, so far as its performance is concerned. The median operation need not necessarily involve anything more than the opening of the membranous urethra. The completed lateral operation further includes the division of structures constituting the neck of the bladder, and it is to this part of the proceeding that any increased risk or difficulty is to be attached.

A little reflection shows that it is possible to closely assimilate the lateral with the median operation, that is to say, to dispense with the incision, not to the staff, but along the staff, should it be found, on exploration with the finger, that the additional room which the latter part provides is unnecessary for the object in view. It need hardly be said that this modification of the lateral method, where it is found, on digital exploration, to be feasible, frees the operator from executing the only portion of the operation to which any increased risk is attached; while, on the other hand, he has the consciousness that, should it turn out to be necessary, he can, by the completion of the deep incision along the staff, avail himself of all the advantages which are conceded by surgeons to the lateral method of opening the bladder.

In the following case, effect was given to these considerations, as I had it in view that it would be possible not only to afford a temporary relief by draining the bladder from the perinæum; but, farther, I might find it feasible, as I have done before, to remove the whole, or a portion of the obstructing prostate, in the form of a pendulous lobe or of an adenoma, which could be enucleated with the finger.

M. L., aged sixty-three, was admitted into the Royal Infirmary on February 16th, 1883. For nearly three years, he had been suffering from frequent micturition, caused by an enlarging prostate. For the last month, the irritability had so much increased, that he found it difficult sometimes to hold his urine for more than ten minutes. The straining and forcing to micturate had induced a considerable prolapse of the rectum. Catheterism had to be frequently employed.

On his admission into the infirmary, the patient was in a feeble condition from want of continuous sleep, by reason of the state of his bladder. His tongue was brown and furred, and there was the usual urinous smell about him. The urine was offensive, and largely charged with blood, which escaped more or less continuously from the urethra, and was excessively increased every time the catheter had to be used. The usual means for dealing with this condition were resorted to, but with no benefit.

On February 24th, I had the patient brought into the operating theatre, and in the course of some clinical remarks, pointed out to the class the absolute necessity for adopting other means than those usually employed in less urgent cases of this kind. The cystitis and hemorrhage, which were directly connected with the prostatic enlargement, were both likely speedily to occasion a fatal termination.

Recognizing the necessity, at this period of the case, of placing the bladder at rest, and rendering the use of the catheter unnecessary, I expressed my intention of making an opening into the bladder by the lateral method, as already described. The patient being placed under ether, and in the lithotomy position, I introduced a small grooved staff into the bladder, and made a limited incision down upon it laterally, opening the urethra in the membranous portion. The staff being necessarily a small one, I was enabled to pass my right index finger into the bladder without removing it. On doing so, I found that, though the prostate was not very large, the orifice of the bladder was obstructed by one of those nipple-like enlargements of the third lobe, which are sometimes more effectual in rendering micturition difficult and catheterism uncertain, than more general hypertrophies.

Finding that I could obtain my object and free the neck of the bladder without attempting to remove or enucleate any portion of the gland, I did not carry my incision into the bladder along the groove of the staff, but introduced on my forefinger (having now removed the staff), a straight, narrow, probe-pointed bistoury, by which I divided what seemed to me to be the obstructing portion of the prostate. I then found that my finger entered the bladder easily, whereas previously it was with the sensation that a source of obstruction existed, which was quite capable of rendering catheterism difficult. I should add that, on again using my knife for the purpose of slightly enlarging the superficial incision to avoid bagging, the rectum, which had been accustomed to prolapse very much, suddenly filled the wound, and came into contact with my knife; a small puncture of the bowel was the result. I ought to have avoided this, but, curiously enough, I am disposed to think, as I shall presently mention, it proved a not unimportant feature in the case.

A lithotomy-tube was introduced, to which a rubber tubing was attached for draining and keeping the patient dry. The operation was followed by a rapid cessation of the hemorrhage and a decline of the cystitis. On the third day after, it was reported, "Patient in good condition; sleeps and eats well; pulse 80; temperature has never exceeded 100° Fahr." On March 15th, the report states, "Wound looks healthy; appears to be closing up; passes his urine mainly through it; some by the urethra." At times, a little fæces made its way into the wound, escaping through the perinæum. The amount was so small as not to occasion any inconvenience, while it proved to be an obstacle to the speedy closure of the incision into the bladder. Within eight weeks from the time of the operation, the patient was able to leave the infirmary.

On June 1st, he returned for the purpose of getting some advice for dyspepsia, when I took the opportunity of examining him In the perinæum, there was still a slight fistulous opening remaining at the lower angle of the wound, through which urine sometimes passed in drops during micturition. The patient could now hold his urine for several hours ; the urine was normal. On examining the prostate from the rectum, some slight enlargement could be felt. A full-sized catheter was easily introduced into the bladder, without any hitch or obstruction, in the prostatic urethra, or at the neck of the bladder, being experienced.

I do not think there can be any doubt that the operation not only saved the life of the patient, but has considerably added to his comfort. Though the use of the catheter has been abandoned, I have advised its occasional employment, in accordance with the views I have advanced relating to the early treatment of prostatic hypertrophy.

PALATABLE DRUGS FOR CHILDREN. By FREDERICK CHURCHILL, M.D., F.R.C.S., Surgeon to and Member of the Drug Committee, Victoria Hospital for Children.

We owe it, probably, much to the persistency with which practitioners of the sterner sort have impressed their rhubarb and black draughts upon rebellious children, in defiance of the protestations of nurses and mothers, that "the tasteless globule" has found such favor with the weaker sex. I could tell of several cases where the children have been intrusted to the care of a homœopath, while the parents luxuriate under the usual heroic treatment of the orthodox practitioner. We must not forget to swim with the tide. Children of this enlightened age are far more pampered and spoiled than those of the previous generation. Mothers seem unable to control their feelings ; or, it may be, that, with a smattering of physic-lore, they find that there is no longer any necessity to cling to the once inevitable and nauseous potion. We must say a word, too, for the children. None of us like compulsion. It must not be forgotten that there is often more harm done to a child's nervous system, by cramming the draught down its throat, than all the good the nauseous drug was supposed to effect. Children will often take days to recover their equilibrium after a protracted encounter with the medicine-glass in the nursery, under the stern discipline of a would-be conscientios nurse. Judging from the varied susceptibilities and dispositions of the children under my care, some of them having very resolute wills, others possessing —I cannot say endowed with—mothers of a pronounced æsthetic temperament, to whom everything is a bore, except a novel to read and a sofa to lie upon, it becomes most important to formulate a line of treatment that will satisfy such requirements.

This class of children are generally ruled by a domineering old woman they call "nurse," displaying a maximum of "tall talk," with a minimum of what she delights to call "common-sense" (and very common, indeed, it proves to be). The medical man must cultivate a habit of attacking such a stronghold of prejudice and conceit by a series of carefully planned flank movements, in such a way that the nursery magnet may be drawn, against her own convictions, into a pliable frame of mind, sufficient to enable the medical man's physic and regimen to stand a chance of being attended to.

To attempt to invade the sanctum of a nursery where the lady-paramount is cajoled into the idea that "nurse is a treasure," and prefers rather to foster the notion, than to care to have her eyes opened to the actual state of reigning ignorance, requires all the practical art of the medical man gradually to overcome and remedy.

Undoubtedly, the ailments under which children for the most part suffer belong to the preventable class. They are due sometimes to overfeeding; very often to neglect, especially of the calls of nature; and very much to general bad management. With this view, it may be well to presume that the best and most approved mode of treatment for habitual torpidity of the bowels is not medicine, but an enema of soap and water, with occasionally a little castor or olive oil added to the injection. If this do not succeed, and the child's appetite begins to fail, it is an indication for administering medicine by the mouth.

Fortunately, the art of the apothecary comes in to our aid, and we are now enabled to give the most nauseous of drugs—castor-oil—absolutely free from taste or smell, while it retains the full aperient properties of ordinary castor-oil. Messrs. Allen and Hanburys themselves advise that it should be shaken up with three or four times its bulk of hot milk. The viscidity of the oil is thus avoided, and the emulsion produced is scarcely distinguishable from warm rich milk.

If it be desirable to administer an aperient that will act more directly on the liver, and to avoid the unpleasant effects which often arise after taking "oil," the compound rhubarb pill will be found a serviceable aperient. Of course, some new method for its administration will be desired, which I shall now detail. Either an ordinary five-grain pill may be cut up, and a portion of it broken in small pieces may be buried in a chocolate-cream, which the youngest child will take with avidity; or for children of, say five years and upward, I have given one-half and one-fourth of a grain of this pill, thinly coated. Half-a-dozen or so may be taken, like "hundreds and thousands," and washed down with milk or water.

The medicated fruit lozenges are very useful, *e. g.*, tamar indien and laxora lozenges. Podophyllin is probably one of the active ingredients in these lozenges. Only a small portion of a lozenge must be given to a child. The objection found with these is that they sometimes "gripe" the little patient. Next to these, perhaps, in efficiency and palatability is the compound liquorice powder, containing senna powder. About a teaspoonful stirred up with warm milk may be taken at bedtime, and a little chloric ether added (about ten to twenty drops). Very few children will object to take fluid magnesia or the calcined magnesia, especially if flavored with the syrup of mulberry or orange.

I have succeeded in masking the taste of many powders by the addition of powered "rose" lozenges. I very seldom prescribe Gregory's powder, on account of its nauseous character and bulk. I prefer to combine the rhubarb with bicarbonate of soda, about five grains of each. This makes a much more miscible and manageable powder. Given in jam, honey, or golden syrup, the taste is altogether covered.

Children will sometimes take the "baume de vie," or decoction of aloes, without objecting much. A little of this rubbed into the stomach of infants will suffice sometimes to procure an action of the bowels. The extract of liquorice may be added to the decoction until the bitter taste is sufficiently masked. Children have not really such an aversion to it, for I have known them to lick off the aloes from their fingers when put on to prevent them from sucking them. Powdered aloes, about half a teaspoonful, may be given mixed with brown sugar. The electuary of senna is taken without difficulty by some children, also the syrup of senna and the infusion with prunes. The effervescing purgative lemonade is a very agreeable drink, as also half a seidlitz-powder flavored with lemon-juice.

Turning now to febrifuge mixtures, there is not much need of flavoring to mask the flavor of these. Sweet nitre, acetate of ammonia, spirits of chloroform, are all pleasant drugs to take. The nitrate and chlorate of potash are rather saltish, but the sal prunelle and Wyeth's compressed tablets will be taken by the bigger children without much protest. The syrups of orange, lemon, and mulberry, will come in as agreeable and cooling adjuncts. Cough-mixtures can generally be made very pleasant by the addition of syrup of squills of tolu, etc.

As regards tonics, some considerable skill will be necessary efficiently to cover the bitter flavor. Children will take the saccharated carbonate of iron very well, and also steel wine; but if we attempt to give the bitter infusions, there is sure to be rebellion in the nursery. Quinine—one of the most valuable medicines for children—can be given without difficulty, either in the form of pill or, which I prefer, dissolved in syrup of orange, without the addition of any water. This effectually covers the flavor. Quinine wine is useful for the elder children.

Chemical food is, of course, taken with relish, and if recently made is a serviceable tonic; but the phosphates, from their insolubility, throw down very much. The compound solution of the hypophosphites, in ten-minim doses, and the hypophosphite wine, forms a perfect substitute for Parrish's food. Besides having iron in a form which is easily absorbed, the hypophosphite of magnesia serves as an useful antacid and stomachic in this combination.

With a view of putting into practical form these few suggestions, and to systematize the irregular but constant attempts of mothers to keep a little dispensary of their own, I have instructed Messrs. Savory and Moore to fit up a nursery medicine-chest, with a companion guide, to assist mothers, especially those residing in the colonies and far away from medical aid, to treat their own children in such emergencies.

EXCISION OF AN ENORMOUS TUMOR (PROBABLY OSTEO-FIBROMA) GROWING FROM THE BASE OF THE SKULL, PRESSING ON AND PARTIALLY ABSORBING THE RIGHT SUPERIOR MAXILLA, AND NECESSITATING THE REMOVAL OF THAT BONE. By WILLIAM STOKES, F.R.C.S.I., Professor of Surgery, Royal College of Surgeons of Ireland.

Early in October of last year, J.T., aged forty-seven, a farmer by occupation, was admitted into the Richmond Surgical Hospital, under my care, having been recommended to me by my friend, Dr. G. Plunket O'Farrell. The patient was suffering from the existence of a large tumor intimately connected with the left superior maxilla. It extended chiefly into the mouth, filling to a great extent that cavity, resting on the tongue, and almost extending across to the right tonsil. This rendered both mastication and deglutition most difficult. Externally, there was on the left side of the face, rather a fulness or tumefaction than any distinct tumor. Two points of apparent fluctuation on the surface of the tumor inside the mouth were observed, one to the left of the incisor teeth, and the other about the centre of the tumor. The patient first noticed the growth about eighteen months previously to his admission into Richmond Hospital; but, judging from the connections which I subsequently found, the tumor had probably existed for a much longer period. The patient did not suffer any pain; there were no ulcerations on its mucous surface, and, externally, the integuments presented a perfectly healthy appearance. His general health was unaffected. As the tumor was making a serious advance into the cavity of the mouth, to a great extent filling it up, I determined, strengthened by the coinciding views of my colleagues, to remove the growth; and, on October 30th, the operation was performed. The incisors being extracted, an incision was carried from the inner angle of the eye along the side of the nose, then horizontally to the septum, and finally through the lip vertically downward (Ferguson's incision). The flap was then dissected backward. I then found, on making slight pressure on the anterior surface of the tumor, that the bone yielded, giving the sensation of parchment. I then dissected the nasal tissues toward the right side opening into the nasal fossa. The two superior maxillary bones were then separated by a powerful curved toothed forceps. From the inner angle of the eye an incision was carried horizontally outward toward the malar eminence, and, on dissecting the flap further back toward that point, I was enabled better to estimate the extent of the tumor. With the forceps, I then separated the nasal processes of the superior maxillary from the nasal bone, and carried on the division of the bone horizontally outward below the infraorbital ridge, being anxious to preserve that portion of the bone. The separation of the maxilla from the malar bone was now effected, and I was then made fully aware of the extensive amount of absorption of bone which had been caused by the tumor. On lifting up the portion of bone separated by the forceps, and passing my finger upward and backward, I found the floor of the orbit had been invaded, and the tumor attached mainly to the cranial base, mostly to the body of the sphenoid. Below, it had become attached to the left half arch of the palate, which was removed with the tumor. Externally, the growth extended to a point behind the malar eminence. The extensive attachments of the tumor superiorly, inferiorly, and laterally, made its removal a matter of extreme difficulty. Great hemorrhage attended the operation, which was checked mainly by the free application of the actual cautery. At first, this failed to arrest it, and I then endeavored to apply ligatures to the bleeding points; but, owing to the great depth at which they were, this was found impossible. I then applied the actual cautery a second time, and, fortunately, with success. Before closing the wound, I placed a plug deep into it when the bleeding occurred, and then brought the flaps together with numerous points of carbolized catgut sutures, except at the divided portion of the lip, which were approximated with hare-lip pins and a figure-of-eight suture.

The patient's recovery was uninterrupted, immediate union taking place throughout the entire extent of the facial wound. The deformity resulting from the operation was surprisingly little.

Mr. Abraham, the talented Curator of the Museum of the Royal College of Surgeons in Ireland, kindly examined the tumor with his accustomed care; and the note with which he furnished me in reference to its pathology will doubtless be read with much interest.

"The sections of the growth examined are made up of lobules of epithelial tissue, separated by septa of young fibrous tissue, of which the larger sometimes contained newly formed trabeculæ of bone. The epithelial cells have large well-defined spherical or oval nuclei, and their cell-substance is more or less granular. In shape, they are occasionally columnar, but more often polygonal, or with an indistinct boundary. They are situated in one or more layers around alveolar spaces, which are generally occupied by a mass of amorphous material. In some parts, the spaces are elongated and parallel, giving the tissue the appearance of a collection of tubular glands."

The points of special clinical interest in this remarkable case were: The exceptionally great size of the tumor; its extensive attachments to the sphenoid, palate, malar, and superior maxillary bones; the alarming hemorrhage that attended its removal; the rapidity and completeness of the patient's convalescence; and, lastly, the difficulty of arriving at a definite conclusion as regards its pathology. The probabilities of the recurrence of the growth are, I should say, great; but I have not been able to ascertain if there be any evidence of its return as yet.

Summer Diarrhœa.—In view of the recent continued warm weather and the approach of the season which is usually the hottest in the year, the subject of summer diarrhœa claims attention. In infants, especially, it is a matter of much interest and importance alike to the sanitarian and to the practitioner, because it is a special variety distinguished from the same disease in adults by its etiology, and on the recognition of this fact success in treatment depends. As regards causation, there is no question as to two points: 1. Its association with a milk diet; 2. Its occurrence almost invariably in hot summer weather. Though the breast-milk will sometimes produce diarrhœa, it is by far more common to find this occurring in a severe form when cow's milk of one kind or another is used. The question why precisely it is so, invites further study. According to some, we must regard the excess of caseine over the proportion found in human milk as the source of evil. Other authorities blame the addition of an undue proportion of sugar. Recently, again, the germ theory has taken hold of this disease, which is regarded as the outcome of lactic fermentation in the intestine. The characters of the stools, acid, and containing undigested milk full of bacteria, bear on this view. The existence of this condition does not negative the influence of the chemical peculiarities or modifications of milk already mentioned, for these, by delaying its digestion or by providing suitable pabulum (sugar) promote the action of bacteria. Not one of these possible causes, therefore, is to be ignored. There are circumstances in such cases, however, which suggest a septic origin. Their occurrence in summer, as said, is one of these, and their greater frequency in the close, ill-ventilated, and often carelessly managed homes of the poor is another. It is here that we find the disease in its greatest severity. It is not unusual to find in such homes that there is but one source of nourishment, a solitary feeding bottle in use, and that is sour, and perhaps has been so for days or weeks. The etiology of the disease is, then, not far to seek. The characters of infantile summer diarrhœa are familiar to all practitioners, and have been described by various authors; the only point we would now notice in this connection is its liability to be simulated or complicated at certain ages by the watery evacuations due to dental irritation. This distinction is important, for it bears materially on treatment. On this point we may say that the numerous expedients, which therapeutic ingenuity has suggested at various times, form a fair gauge of the perplexities of medical men in such cases. These perplexities, it is now generally admitted, have arisen from an imperfect comprehension of the relation between the physiology of infant digestion and diet. Accordingly, we now hear less of strong astringent remedies and more of prepared foods. It is not necessary that we should classify or compare these at present, and medical opinion everywhere will support us in condemning, as unsuitable for young infants, those of purely farinaceous character, untreated by any agent having the effect of ptyalin. While we do not deny that amyloid foods, which have been so treated, may reasonably be given as nourishment, and have often been so used successfully, we may be allowed to ask why amyloid materials capable of transformation into fat should be preferred to fat already existing in the form of milk. This, probably, they never are when the breast-milk is obtainable. It is the greater difficulty of digestion, and the uncertain composition in towns, of cow's milk, when used as a substitute, which has given an impetus to the practice of artificial feeding. But these are surely avoidable evils. Dilution, with an equal, or rather greater, quantity of pure water, is usually found a sufficient remedy for the former without the elimination of caseous or other ingredients, and care in the selection of a dairy should render the composition uniform. It seems to us a questionable and usually unnecessary proceeding to abandon the use of *bonâ fide* milk of almost any kind in favor of artificial preparations. But let the milk, if used, be carefully kept in a cool place, and obtained fresh as often as possible in a day; and, above all, let cleanliness be the first consideration in regard to all bottles so used in its administration. Medicinal agents, which aim at promoting digestion of milk, and these we may regard as the most important, are perhaps equally useful, whatever be the fault assumed to exist in the milk. The speedy result of milk-indigestion in the alimentary canal must be fermentation. The acid stools, aphtha, etc., point to this. The obvious remedy is the addition of an alkali, preferably one with antiseptic proprieties, and of such there is no lack in the *Pharmacopœia.* But we are apt to forget that every infant liver contains in the bile a fluid well adapted to the necessities of the case; and we have known a repeated moderate excretion of bile by means of some cholagogue cut short this form of diarrhœa, as it is known to arrest attacks of dysentery. This subject is now receiving much consideration at the hands of officers of health. It behoves medical men, especially in towns, to give attention to the whole history of the complaint and its management; and, as far as possible, to exclude from their minds in doing so, all bias in favor of one theory or another. The true solution of the difficulty will probably be found to reconcile apparently conflicting views. We offer our own observations, not without reserve, since we do not desire so much to promulgate a doctrine as to invite a critical examination of this subject, and all opinions formed upon it.—*British Medical Journal.*

SELECTED ABSTRACTS.

W. John Kennedy (Dalkeith): Case of Pregnancy in a Woman at the Age of Sixty-two (*Edin. Med. Jour.*).—Cases of pregnancy occurring in women who have passed the half century, and more especially in one who has borne over a score of children, are undoubtedly of extreme rarity.

Early on the morning of November 29th, 1880, K. was summoned to attend Mrs. M., residing in Back Street, Dalkeith. Patient was sixty-two years of age, her catamenia had generally been regular (the last occurring in the middle of February), and she was in her twenty-third pregnancy. On arrival, K. found labor going on naturally, os well dilated, pains strong and regular, and the head presenting. Having waited a short time, and finding that the expulsive powers showed no signs of rupturing the membranes, he puncturd them, after which four or five pains sufficed to expel the child. The uterus contracted well, the hemorrhage was normal in amount, and the placenta was removed within five minutes after the birth of the child. There was nothing particular to remark about it, except the unusual thickness and toughness of the membranes. The child was a well-developed, healthy male, and rather above the average size.

So far as the actual labor is concerned, there is nothing calling for observation, the patient having had a quick and comparatively easy confinement. The interest of the case lies in the woman's advanced age, the long continuance of menstruation, and the large number of children she had borne. To the medical jurist the case has further an important bearing on the question of legitimacy, as tending in some measure to determine the age at which a woman may bear a child, though, of course, it by no means proves that conception may not take place at even more advanced periods of life.

Mrs. M. (*nee* Jessie Boyd) was born in Selkirk in October, 1818, or, as she says with evident pride, just three years after the battle of Waterloo. Her father was a major in the army, and she had been with him in America and India, and came home from the latter country at the age of seventeen. She was married in 1838, and her first child was born in the same year. Her husband was killed by an accident soon after the birth of the child. She married again about two years afterward, and by her second husband had *nine* children (once twins) and two miscarriages. After the death of her second husband she again married, and by this third husband had *eleven* children at term, the last being born, as above stated, on November 29th, 1880. The child preceding this one was born at Arbroath in 1874, and between the two she had a miscarriage in November, 1878. During all this time she had, as a rule, menstruated regularly when not carrying a child.

Naturally, the first question that arises in one's mind is, are the *data* on which this woman's age is set down at sixty-two correct? In regard to this, K. calls attention to the following points in evidence:

1st. The statements made to him by the woman herself. These were given freely and explicitly, and the most careful cross-examination entirely failed in producing any contradictions. Besides, there was no possible object to be gained by the woman fabricating such a remarkable history as that given by her.

2d. The fact that Mrs. M. was a nurse under K. in 1870, when she said that she was over fifty; and certainly she had quite the appearance of a woman of that age.

3d. The number of confinements which she had had at term, namely, twenty (one twin), with the addition of three miscarriages.

4th. The fact that in June, 1879, when her third husband applied to the parochial board at Selkirk for relief, he stated his wife's age to be *sixty* years, *i.e.*, sixty-one in the following October.

From a medico-legal point of view, K. ventures to think that this case presents some feature of special interest. While it is impossible to lay down a hard and fast rule as to the age beyond which a woman may not conceive and bear a child, still every well-authenticated case of pregnancy at an advanced age is of value, as showing how late in life a woman may have, and actually has had, a child. It may be said roughly that the child-bearing age in woman ceases between forty and fifty; but as impregnation may take place at exceptionally early periods of life, so it may also occur at ages considerably beyond fifty. In a table given in Taylor's "Medical Jurisprudence" (1865, p. 876), there are twelve cases quoted at ages from fifty to fifty-four. In the same work there is also a case mentioned in which a healthy woman bore a child at the age of sixty, menstruation having continued up to that time. Two others at sixty-three and sixty-five are noted, but their authenticity is doubted. He also gives two cases, recorded by Haller, in which women at sixty-three and seventy bore children.

The importance of accurately recorded cases of women giving birth to children at these advanced ages has a special bearing on the question of legitimacy. Suffice it to recall the well-known "Douglas Peerage" case (1767–69), in which the claimant's legitimacy was disputed *inter alia* on the ground that the reputed mother had passed the child-bearing period at the time of the birth, she being then in her fiftieth year.

Besides giving birth to a child at the age of *sixty-two*, there is another point in Mrs. M.'s case which appears to be of interest, viz., the regularity with which she went on conceiving after she had passed the ordinary child-bearing period. This will be best shown by giving in a tabular form the dates of her last seven conceptions:

Year 1865	Age 47
" 1867	" 49
" 1869	" 51
" 1871	" 53
" 1874	" 56
" 1878	" 60 (miscarriage)
" 1880	" 62

The only case of a similar nature which K. has been able to find is one quoted by Orfila, in which a woman had her first child at the age of forty-seven and her last at sixty, five others being born between these dates (Taylor's "Medical Jurisprudence," p. 875).

The long continuance and general regularity of menstruation in Mrs. M. are also noteworthy. This function may be stated, as a rule, to commence about the age of fifteen, and to terminate about forty-five. There are many instances, however, in which it has occurred at an earlier date, and it has even been observed in childhood. Similarly it has been noted as occurring at periods of life considerably beyond forty-five. The power of procreation may be said generally to run *pari passu* with menstruation, so that as long as the latter function continues in activity, there is reason to infer that a woman may conceive. Cases in which menstruation has been observed late in life are frequently found not to have had the function established until long after the usual period for its commencement. Probably the most remarkable case of prolonged menstruation is that quoted by Orfila, where it continued until the woman reached the age of *ninety-nine*, the function having been established when she was in her twentieth year. In the present case the menses first appeared in India at the age of thirteen, and continued with remarkable regularity during the intervals of child-bearing.

The large number of children borne by this woman is also interesting, she having had *twenty-one* children at term, twins being borne on only one occasion. In relation to the question of fecundity in women, K. has heard of three cases in Somersetshire. In two of these the mothers were cousins, and had borne *twenty-four* and *twenty-five* children respectively, twins occurring on several occasions. In the third case a lady had ten children at term in the course of fourteen years. All these were suckled by her (except the last), thus showing that conception may take place during lactation, and adding one more instance to disprove the popular notion usually entertained upon this subject.—*Am. Jour. Obstet.*

Elsner: On Dermoid Cysts, Especially those of the Ovary (reprint from *Dublin Journal of Medical Sciences*, May, 1882).—This monograph—in connection with a case—contains a full account of the literature of these cysts. The case is that of a girl of sixteen, anæmic, admitted to hospital complaining of dyspnœa and inability to sleep in erect position. The abdomen was enlarged as though she were seven months gravid. This enlargement dated from establishment of menses, three years prior. The diagnosis of ovarian cyst was made by Dr. Walter Smith. Operation advised and refused. While in hospital, the patient was able to walk till she had a fall, and from that time was confined to bed. Paralysis of lower extremities, retention of urine and fæces, and an attack of malarial fever followed. Marked fluctuation over abdomen, great and constant pain, vomited steadily for twenty-four hours before death. Bed-sore over sacrum. Autopsy: Abdomen filled with a yellowish fluid, very fœtid; evidences of recent peritonitis. A tumor filled whole of pelvis, growing from left ovary, and was the source of the fluid. Hairs were visible on inner walls and a fibrous tissue with cartilage. Microscopic examination showed tumor to be a true cyst of ovary.

Ovariotomy, if performed early, when suggested, would doubtless have been successful. Is an instance of how a very benign growth can, under circumstances, become most malignant. Here, the fall was the cause.

The rarest form of rupture is, as in present case, into peritoneal cavity. Dermoid cysts are to be classed under Virchow's division "teratoid." They can be external—on eyelids, ear, front of nose, neck, etc; or internal—under tongue, in pharynx, lung, ovary, testicle, etc. Of fœtal origin, they occur in places where the epiblast dips down to meet the hypoblast. They develop best in vascular localities; are most prone to grow at puberty and maternity. The various substances which may be found in them are enumerated. The hair is light-colored, even in negresses; cartilage and synovial joints, teeth, single or set in a plate like an alveolus, nerve-substance may be present. Nails have never been found.

What is the origin of these cysts? Of the numerous theories advanced, that of Heschl, elaborated by His, is especially noted and accepted as the correct one. In brief, an analogous process forms both a fœtus *in fetu* and a dermoid cyst, namely, the "inclusion of one ovum within another, the included one becoming part and parcel of the stronger one, and subsequently perishing."—*Ibid.*

G. Leopold (Leipzig): Ovarian Pregnancy with a Thirty-five-year-old Lithopedion (*Arch. f. Gynæk.*, XIX., 2, 1882).—The specimen was taken from a woman seventy-five years old, the mother of eight children. In her fortieth year she became pregnant for the fourth time, presenting all the symptoms of abdominal pregnancy. However, she was subsequently delivered of three children. The tumor weighs 1550 gms., fœtus presents first degree of mummification. Almost all organs are well preserved and easily recognizable. The tumor has attachments to the omentum, the right tube, which is preserved in its full length, and the right lig ovarii. The ovary itself is wanting.

Spiegelberg claims that the diagnosis of ovarian pregnancy is based, 1, on absence of the corresponding ovary; 2, presence of elements of the ovarian tissues in the sac; 3, attachment of the tumor to the womb by means of the lig. ovar.; 4, the tube being intact. Although it is not possible to trace any tissue of the sac to the ovary, L. thinks that the case is undoubtedly of ovarian origin, because the tumor has the normal attachments of the ovary to its surroundings.—*Ibid.*

CLINICAL DEPARTMENT.

Clinical Remarks on Primary or Immediate Ligature of the Femoral Artery in Popliteal Aneurism and on the Division of the Artery between two Ligatures. By T. Holmes, M.A., F.R.C.S., Eng., Surgeon to St. George's Hospital.

Three cases of popliteal aneurism have been treated at St. George's Hospital within the last few months by the Hunterian operation without any previous trial of compression. As this is a somewhat unusual circumstance at the present time, I have thought it might probably interest the readers of the journal to have the subject of ligature of the femoral artery brought under their notice, especially at the present time, when the old plan of dividing the artery between two ligatures is being reintroduced by Mr. Walsham and other surgeons at St. Bartholomew's Hospital.

After seeing something of popliteal aneurism, and studying the literature of the subject, and the practice of other surgeons, with a certain amount of industry, I have come to a very confident opinion that the safest plan of treatment for all large, all rapidly growing, and all thin-walled popliteal aneurisms is to tie the femoral artery at once, that is, after a few days' confinement to bed ; and that the safest way of tying it is that which interferes the least with the natural connections of the artery. I believe, further, that the safest material for the ligature is either the ox-aorta ligature of Mr. Barwell or the kangaroo-tendon ligature which was introduced at St. George's Hospital by our then assistant-surgeon, Mr. Stirling, and which was brought under the notice of the Royal Medical and Chirurgical Society by Mr. T. Smith and Mr. Girdlestone, of Melbourne ("Med.-Chir. Trans.," vol. lxv., p. 71). On this latter point, however, our experience is as yet insufficient.

I will illustrate the three points above mentioned by a short account of one of the above cases (the only one which was under my personal care), and by a very brief reference to the other two, which were treated by Mr. Haward and Mr. Dent.

My patient was thirty-three years of age. He was a married man, and there was, as far as I know, no history of syphilis, though there seems reason to think that he had been given to drinking. He first noticed something wrong about a month before his admission, when he was getting off a horse, and felt "something snap" behind his right knee. It did not seem very clear how soon afterward he was conscious of the existence of a tumor and pulsation ; but it soon became very painful. Still he continued at his work (that of a coachman) up to the day of his admission. When he presented himself at the hospital, on April 23d, there was a very large aneurism, filling up the whole popliteal space, and consisting of several lobes. The main portion of the tumor, opposite the flexure of the joint, felt more hard and tense than the rest, and was separated by a distinct sulcus from another portion, which extended upward and outward, where the wall seemed much thinner. There was also another part projecting on the inner side. The *bruit* was loudest opposite the joint. Pressure on the artery did not much diminish the size of the tumor. The man was gray-haired, and seemed much above his alleged age. He was restless and very nervous. He was kept in bed for a few days, with the effect of at first much diminishing the pain of which he complained in the leg and in the tumor ; but the latter was obviously increasing in size, and the pain soon began again to trouble him.

On consultation with my colleagues, it was agreed that the best course would be to tie the femoral artery at once; and the operation was fixed for April 26th; but the patient's resolution failed him, and he begged that it might be postponed till the 28th, on which day he consented to its performance. In the interval, the increase of the tumor was very decided. The artery was tied at the usual place with a stout kangaroo-tendon, tied in a double knot. The wound was washed out with carbolic lotion, completely united, and dressed with carbolic gauze. Immediately on the ligature of the artery, the tumor collapsed to about half its size, and the temperature of the limb fell perceptibly. This diminution of temperature persisted for two or three days; but otherwise there was no symptom to record. The wound united throughout by first intention. Sixteen days after the operation, it was noted that the tumor was nearly, if not entirely, solid, about one-third its former size, and the man was to be allowed to get up for a short time, but not to walk. He has since gone on perfectly well, and will soon leave the hospital.

The other two cases in which the femoral was tied without previous pressure may be thus summarized. One was a man, aged fifty-seven, under Mr. Haward's care in July last with disease of the lungs, in whom, after a slight and very trivial trial of genuflexion, the artery was tied, as it was not thought desirable to submit him to any prolonged or irritating treatment. The substance used for the ligature was chromic catgut. In this case the wound healed almost, if not entirely, by first intention, and the aneurism was entirely cured. The man died twenty-four days after the ligature, from the rupture of a vessel in the brain. Mr. Haward will, I believe, publish an account of the dissection. It will be enough here to say that everything about the aneurism and the ligature had been completely successful. The ligature was intact, surrounding the external coat of the artery; the lower coats were cut through. The artery was occluded with clot in the usual manner. The aneurism was filled with laminated clot. The other was one of the rare cases of popliteal aneurism in the female. The woman was fifty-nine years old, under Mr. Dent's care. The aneurism was very large, and extended up beyond the popliteal space. The artery was tied with a kangaroo-tendon on October 5th. The wound united by first intention, and all went well, except that the tumor remained large and without consolidation for an unusually long period. Ultimately, however, this entirely subsided; and when she was last seen, there was hardly any trace of the enormous aneurism to be felt.

These three cases, then, may all be classed as successful; for the death of Mr. Haward's patient had no connection whatever with the operation, and the latter had completely succeeded in its object of curing the aneurism.

REMARKS.—Much is said in the present day about "progress" in everything, and not least in surgery; everything is constantly changing, and it seems almost to need an apology if a surgeon treats his patient as Sir A. Cooper, or even as Syme, would have treated him. There is no wonder, then, that the treatment of aneurism by the ligature has become much restricted. We no longer look on pressure in the treatment of popliteal aneurism with the disfavor with which Syme regarded it. In fact, in one or other of its many forms, it is indisputably the routine treatment; yet, like all other "routine" treatments, it is liable to do mischief if it be not used with discrimination; and this seems to me specially the case with the two forms of pressure which are the most uncertain in their effects, and the least easy to regulate—I mean genuflexion and the use of Esmarch's bandage. But even the less dangerous methods of pressure, by the finger or by instruments, not uncommonly do considerable harm, even when they are borne perfectly well by the patient. I have never ventured on the application of Esmarch's bandage to a large, rapidly growing, thin-walled tumor ; nor do I think that a prudent surgeon would advise the treatment ; while, as I have been successful in the treatment of such cases of small aneurism as I have had under my care, by methods with which I am more familiar, and in which I have more confidence, I have no personal experience of the method, nor have I heard that any of my colleagues have used it. I published in the "Clinical Transactions," vol. ix., the account of a case in which I should certainly have used Esmarch's bandage had I then been acquainted with the treatment. And even with those methods of pressure to which I allude, I have, I think, seen more harm than good from a too long persistence in their use. If they do not succeed quickly, I believe it is better, on the whole, to give them up, and resort to ligature ; though I am aware that success has often been obtained by the protracted use of pressure, still I have seen many cases in which, after a good deal of suffering, the patient has been left in a worse general condition to bear the ligature, and with no improvement in the local conditions, and even one or two in which the aneurism has ruptured, and a case which might have been easily dealt with by primary ligature has become complicated and very dangerous. Hence, while fully recognizing the value of all the forms of pressure, of which, indeed, my own experience has been sufficiently favorable, I do not think it wise to insist on their employment unless some considerable improvement has been obtained in a week. And in persons who are irritable from alcohol, or are unusually susceptible of pain, the use of pressure requires still more consideration.

That the success of the cutting operation has much increased of late years, I think there can be no doubt (see "System of Surgery," 3d ed., vol. iii., p. 139), though there may be some difference of opinion as to the main cause of that success. That "antisepticism" is the chief reason I am firmly convinced, if we use the word in its broadest sense, to include all modern improvements in surgery whereby the rapid union of the wound is favored ; but it seems also reasonable and consistent with experience to hold that another cause is the very slight exposure and separation of the artery which is now the common practice with most surgeons.

And this leads me, in the second place, to notice the proposal lately emanating from Mr. Walsham to revive the old method of dividing the artery between two ligatures. There appears to be an ancestral proclivity to this method at St. Bartholomew's, for it seems to have been constantly adopted in former days by Mr. Ramsden.* But is there really any advantage in it to compensate its obvious drawbacks? The latter are plain enough ; that it involves a much freer dissection and exposure of the artery, separating it for the distance of about half to three-quarters of an inch from its connections and from the accompanying vein. The assumed advantage is that, by taking off the tension of the elastic artery, secondary hemorrhage will be made less probable ; † but for my own part, I venture to question the theory. There can be no question that two ligatures are substituted for one. If those ligatures are made of silk, both have to separate, and either, I submit, may bleed. To say that this never happens except from the slipping of a ligature when an artery is tied after a wound, is, in the first place, to make rather a hazardous assertion; and, in the next place, the cases are not strictly analogous, for wounded arteries are presumably more healthy than those which are aneurismal. Secondary hemorrhage after ligature for aneurism is a very rare event, at least, it has proved so in my experience of the practice of St. George's Hospital. I will set aside two cases in which secondary hemorrhage occurred after the use of the silver ligature, and which obviously depended on the fact that the ligature had been drawn too tight.

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* Ramsden's "Practical Observations" contains a history of four cases of ligature of main arteries —the subclavian (the original case), the common femoral, and the superficial femoral twice ; and in all the last three he divided the artery between two ligatures. All three cases succeeded. It would be interesting, were it possible, to know why his colleagues did not adopt or continue the practice. In tying the common femoral, Ramsden says that he placed his two ligatures an inch asunder. In the superficial femorals, a shorter tract of artery was obliterated.

† See Mr. Walsham's article in the *British Medical Journal* for April 7th, 1883.

The difficulty of regulating the tension of this ligature is a strong objection to it, and has led to its disuse with us, though I had one very successful case of ligature of the femoral with silver for popliteal aneurism. Excluding, then, these two cases, I can find but one instance of secondary hemorrhage in our, the "St. George's Hospital Reports," among more than twenty operations on large arteries in all parts of the body, and with various forms of ligature, and none at all, I think, in which animal ligatures have been employed; for, in the case in question, though the material employed is not stated, I am nearly certain that it was silk. I know, of course, that secondary hemorrhage has occurred with catgut ligatures, but, if I am not mistaken, the cause has usually, if not always, been the melting, breaking, or untying, of the catgut;* and it is difficult to see how we render this catastrophe less probable by using two ligatures instead of one. As far as our present experience of the simple (*i.e.*, unmanufactured) animal ligatures has yet gone, no secondary hemorrhage has attended their use. I mean by "unmanufactured," those in which the animal substance, whether it be ox-aorta or tendon, is not previously putrefied. But surely the use of such ligatures as ox-aorta or kangaroo-tendon is safer on an undivided artery than on its two ends after division; nor is it easy to see how so large and slippery a ligature can be safely applied to a divided artery without denuding a large part of the vessel, and thus handling and contusing the artery and the parts around much more than is done if the sheath be only opened to the extent required to admit the aneurism-needle. I quite agree with all that Mr. Walsham says about the importance of opening the sheath to as small an extent as possible; but it seems to me an odd corollary from this proposition that the most successful plan is likely to be one in which the sheath is "freely opened," and at least half an inch of the artery exposed to view, and separated from all its connections (see *British Medical Journal*, May 12th, 1883, p. 906). There is no reason that I can see for saying that, in the ordinary method, if only the surgeon take care to make as small an opening in the sheath as is necessary to admit the needle, any part whatever of the artery is permanently separated from its vascular supply. That "its blood-supply has been more or less interfered with," as Mr. Walsham says, is no doubt true; but that interference is very transitory, and there is no reason at all for saying that it is ever the cause of secondary hemorrhage. If it were, the bleeding ought to come on much earlier than it usually does, and should be of a very different character, since the whole tube of the artery would become necrosed.† If the artery be securely tied with a material which will keep its hold on the vessel until the seat of ligature is buried in a mass of new fibroid material, secondary hemorrhage, if not impossible, is at least very improbable. We seem on the eve of arriving at something like certainty in the attainment of that end; and I confess it is to me disappointing to find that, at our chief hospital, this advance in the surgery of the arterial system is so little appreciated, that we are advised to return to the ideas of "the elder Bell and the Arabian physicians." My objection, however, to Mr. Walsham's proposal is not the sentimental one that it is reactionary, an objection which he would justly deride; but the practical one, that it inflicts unnecessary damage on the artery, that its efficacy as a safeguard against secondary hemorrhage is very dubious, while it seems more likely to delay the healing of the wound, and expose the patient to greater risks of phlebitis and gangrene.

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* Mr. Callender's case, referred to by Mr. Walsham, may, perhaps, be an exception (see his article in the number for April 7th), but I have tried in vain to find any account of it in the "St. Bartholomew's Hospital Reports," and Mr. Walsham hardly gives sufficient details to enable us to judge; he merely says that the knot was intact; but this does not show that the rest of the ligature was so, and we know that, in some cases, the catgut ligature has softened prematurely, and the force of the circulation has ruptured the weakened vessel. I see no reason why this should not happen after the division of the artery as well as before it.

† See Mr. Bartleet's case, quoted by Mr. Walsham.

Of course, these opinions are only put forward as opinions. We have far too little experience as yet of the animal ligatures to dogmatize on the subject. Clearly, the experience of secondary hemorrhage, and of renewal of pulsation after the use of the catgut ligature, is not in point, and it is the fact that Mr. Walsham uses that experience only which makes his paper to my mind unsatisfactory. Carbolized gut was, in the opinion of most surgeons, a great improvement on the silk ligature, but the natural tissues (such as tendon) are a great improvement on catgut; and I would plead for a full experience of their action in the simple use of the ligature, before going back on the complicated and antiquated method which Mr. Walsham employs, and which I strongly suspect has not been as successful in the hands of the colleagues and successors of Ramsden, at an earlier date in the history of St. Bartholomew's, as it was in the eight cases treated by Mr. Walsham and Mr. T. Smith. At least, it seems odd, if division of the artery is a great security against secondary hemorrhage, that it should have passed out of use when secondary hemorrhage was so much more common, in order to be reintroduced when that accident is seldom met with.

Our experience at St. George's of the tendon-ligature has certainly been small as yet, but it has been eminently satisfactory. I know of no cases as yet beside the two mentioned in this paper—Mr. Pollock's, reported by Mr. Dent ("Medico-Chirurgical Transactions," vol. lxiv.), of double distal ligature of the subclavian and carotid; and one under Mr. Pick's care, of ligature of the femoral after the failure of pressure. In all these cases, the ligature acted well, and the wound healed kindly. It would be absurd to found any general conclusion on so small a number of cases, but our present experience would certainly lead to a continued use of this form of ligature; and, even if we had to confine ourselves to the carbolized or chromicized catgut, I have seen no reason for modifying our method of applying the ligature.—*Brit. Med. Jour.*

PROCEEDINGS OF SOCIETIES.

AMERICAN MEDICAL ASSOCIATION—SECTION IN OBSTETRICS AND DISEASES OF WOMEN.

First Day.—The meeting at Frohsinn Hall, No. 333 Superior Street, at 2.30 P.M., was very largely attended, there being present fully two hundred physicians. J. K. Bartlett, of Wisconsin, acted as chairman, and G. H. Moses, M.D., secretary. The first paper read was on Chronic

Entero-Pelvic Inflammation, by W. H. Byford, M.D., of Illinois. Dr. Byford said, in substance:

The terms parametritis and perimetritis are erroneously supposed by many to include the whole subject of entero-pelvic inflammation. These terms are misleading, because, as now often used, they present to the mind the idea that all cases of inflammation not confined to the uterus must belong to one or the other of them. Actual observation teaches the important fact that perimetritis and parametritis usually exist together, and are usually complicated with inflammation of the uterus, and not infrequently the ovaries and Fallopian tubes are involved; the obvious conditions of chronic parametritis and suppuration, or chronic pelvic abscess, located more frequently, but not always, in the broad ligament, are the consequence of cellulitis. The chronic pelvic abscess is generally the sequel of acute inflammation, and attains chronicity from the imperfect evacuation of the pus after acute inflammation has terminated in suppuration. The remedy in such cases is found in surgery, and consists in making a more direct outlet through the vagina large enough to at once completely evacuate the pus and enable the surgeon to cleanse and disinfect the cavity. After citing several cases, the writer drew a number of conclusions, specially emphasizing the danger of converting a chronic pelvic inflammation into a disastrous acute form.

The second paper was Post-partum Polypoid Tumors, by Dr. Henry G. Landis, of Columbus, O. The paper described four forms of this tumor:

1. Fibrinous blood clots gradually formed.
2. The same intermixed with fragments of placenta and membranes.
3. Prematurely detached stripes of decidua with blood clots.
4. Hypertrophied patches of decidua.

The third paper, the Restoration of the Perinæum by a new method, was by Henry O. Marcy, M.D., of Massachusetts. The writer remarked that the anatomy of the perinæum has, within the last few years, become fairly understood, the perineal body being now recognized as an anatomical utility, and as the keystone in the arch of perineal support. He presented a new method for repairing the perinæum by the use of lateral support. This is accomplished by the use of wire of German silver, which possesses elasticity sufficient to make lateral tension; and the ends are so bent that each forms a support with the other; thus a kind of "safety-pin" holds the refreshed parts in position.

Second Day.—At the opening of the meeting, Dr. E. C. Dudley asked permission to postpone the reading of his paper, which was granted. Owing to the absence of Dr. R. Beverly Cole, of California, and his paper on Subinvolution, its Causes and Treatment, not being on hand, the next paper called for was Post-partum Atrophy of Uterus, by J. Tabor Johnson, of the District of Columbia. Dr. Johnson also being absent, Dr. John Morris, of Maryland, read his paper on What Means can be Judiciously Used to Shorten the Term and Lessen the Hours of Labor, of which the following is a brief abstract: In describing lingering labor he divided it into three stages: First, when the head remains high up; second, when it has descended into the pelvic cavity, but the parts are tense and undilatable; and, third, when the child impinges on the perinæum. He explained the procedures to be used on all these conditions, and at what time to employ them. These procedures were, detaching the membranes around the cervix with the finger in the first stage; dilating with the pulpy part of the finger, and stretching it cautiously during each pain; forcible external compression, pushing the cervix over the occiput;

the administration of opium and ergot, but never in first cases, and finally chloroform. These means all failing, the only alternative is the forceps. The doctor further said that if the means he suggested were employed, laceration of the os and perinæum, those *bêtes noir* of modern medical literature, would be obviated, and post-partum hemorrhage, that greatest of all complications in labor, would be prevented. The above paper was discussed by Drs. McClure, of Pennsylvania; A. C. Gent, of Texas; Reamy, of Ohio; Smart, of Michigan; Gordon, of Maine; Martin, of Massachusetts; Montgomery, of Pennsylvania; Landis, of Ohio; Humiston, of Massachusetts; Robinson, of Pennsylvania; Ruvis, of Ohio; Horlic, of Ohio; Watkin, of Kentucky, and finally closed by the original speaker.

Dr. E. C. Dudley, of Illinois, read the next paper on The Immediate Application of Sutures in Puerperal Laceration of the Cervix and Perinæum, discussed by Drs. Harvey Walker, of Kentucky; E. W. Jenks, of Chicago; Morris, of Baltimore; Maughs, of St. Louis; Ulrich, of Pennsylvania, and Parson, of Detroit. The closing paper of the afternoon's session, by Dr. W. H. Taylor, of Cincinnati, was the report of a case of laparo-elytrotomy in its various stages until its final development. At the conclusion of the last paper the meeting adjourned.

Third Day.—The Section in Obstetrics and Diseases of Women met at Frohsinn Hall. Dr. P. Zenner, of Ohio, read a paper on the Value of Gynæcological Treatment in Hysteria and Allied Afflictions. He said that the occasional dependence of nervous disease upon female diseases, and successful results of the treatment of the same case, has unfortunately led to the too general advocacy of gynæcological measures in nervous diseases. It is time to recognize that such measures may do harm as well as good. Hysteria is essentially dependent upon a constitutional predisposition, often of hereditary origin. Disease of the uterus or ovaries may favor this predisposition by the general debilitating effect.

Many cases occur where the cure of the uterine disease does not affect the nervous malady; also, when the latter is cured by proper measures, while the uterine disease remains. The treatment recommended was naturally moral, hygienic, and constitutional, rather than local.

G. M. Maughs, M.D., of Missouri, read a paper on the Midwifery and Gynæcology of the Ancients, which showed that the physicians of the first century were familiar with many of the advanced ideas of modern gynæcology.

The Committee for Selections for Prize Essay was then appointed by the chairman, and announced as follows: Drs. L. F. Warner, of Massachusetts; H. D. Didama, of New York, and W. H. Byford, of Illinois. The Committee on Awards consists of Drs. J. C. Rust, of Ohio; T. A. Reamy, of Ohio, and G. M. B. Maughs, of Missouri.

SECTION ON DISEASES OF CHILDREN.

First Day.—In the Section on Diseases of Children, Dr. Charles W. Earle, of Chicago, read a paper on Cephalhæmatoma in the New-Born. The most important subject connected with the subject, the speaker said, was its diagnosis, and it appeared to him that there were four difficulties with which it was likely to be confounded, namely, caput, succedaneum, congenital encephalocele or hernia cerebri, erectile tumors, and craniotabes.

As to the treatment of this difficulty, the speaker said the best method to be pursued was a judicious letting alone; nature, in a great majority of cases, being able to effect a cure without the aid of medical art.

Second Day.—The first paper was by Dr. Alexander Y. P. Garnett, Emeritus Professor of Clinical Medicine in the National Medical College at Washington, on Epidemic Jaundice among Children. Dr. Garnett held that heat was one of the most important agents in the production of jaundice, not only among children, but among adults. He stated that he had noticed in his own experience during one summer, six cases of jaundice among children in Washington, all of which occurred between the first of July and the first of October. During the same summer several other physicians had cases which showed the same clinical conditions. He stated that, though jaundice sometimes occurs in the winter, the patient's system has been, during the preceding summer, fitted for the disease. French soldiers, he said, fighting in tropical countries, had been attacked by epidemic jaundice, large numbers dying, and the liver and spleen in each case were found to be enlarged and congested. The disease was attributed by the army surgeons to the intense and prolonged heat.

Dr. Lynn, of Pennsylvania, said he had noticed a similar epidemic in the valley of the Monongahela. Few of the cases were serious, and nearly all recovered. He had observed that the disease was confined entirely to children. An entire family of children were affected, while those in an adjoining house escaped. He found that little treatment was necessary. There was no malaria in that section, and he was almost certain the disease was caused by heat.

The next paper was on Unity of Diphtheria and Membranous Croup, by Dr. Alexander Harris, of Virginia. Dr. Harris expressed the opinion that the diseases were identical, and that it was impossible to distinguish between the two. Diphtheria was claimed, he said, to be a disease of the pharynx, and croup a disease of the larynx, but his experience taught him that membranous croup originates in the larynx only in about ten or twelve per cent of all the cases. "I think it may be assumed," he said, "that false membrane is as constant a result of diphtheritic inflammation or poisoning as the eruption in scarlatina or the pustule in small-pox is an effect of the poison upon which those diseases depend, and if this membrane is formed in the pharynx, I think I am safe in saying that we all consider it equally conclusive, as a diagnostic. It appears, then, only necessary to establish the identity of laryngeal with pharyngeal false membrane to make the former as conclusive a diagnostic as the latter." He held that the difference between laryngeal and pharyngeal false membrane cannot be detected with the naked eye, and microscopists, even, are unable to differentiate.

The paper called forth a spirited discussion, which was participated in by nearly all the physicians present, the assemblage being about evenly divided for and against the theory of unity. Dr. Charles W. Earle, who occupies the chair on children's diseases in a Chicago college, stated that he was frank to admit, after a practice of thirteen years, that he was unable to tell one disease from the other, or, in other words, that he thought they were identical.

Third Day.—At the session of the Section on Children's Diseases the first paper was on Dentition, by Dr. A. H. Good, of Salem, Ind. Dentition is not properly classed as a disease, but the diseases which accompany it are numerous. From dentition and its accompanying diseases the mortality is greater than from all other diseases to which children are subject. Some children are more easily disturbed by teething than others, for the reason that they are not so strongly organized, or because of some peculiar susceptibility to its influence. At the extreme end of each tooth root is the foramen, through which passes the dental nerve, and during the growth of the tooth there an inflammatory action which, coming through the nerve agency, reflects with great power through the same channel, and is generally distributed through the sympathetic nerves. We then have, in addition to the tooth acting as a foreign body, a reflex nervous irritability. Our attention is first called to the teeth, and when the gums are swollen they should be divided to relieve pressure, pain, and inflammatory action. We have as concomitant a functional derangement of the stomach and bowels resulting from enervation, the sequela of the reflex nervous irritation, and displaying a yeasty and soured condition. This we may find upon microscopic examination to contain myriads of bacteria. The thermal ranges in these cases are various, in the acute form often rising to 103°, 104°, and 105° F. The pulse usually corresponds to the temperature. The speaker said he gives nervines for the disease proper, and for the secondary symptoms, sub. nit. bismuth and pepsine.

In the discussion that followed, Dr. Reed, of Ohio, stated that he believed the reflex nervous action interrupted the working of the nerves of the stomach, and in consequence the secretions of the mucous membrane were cut off, the food would not digest, and hence diarrhœa ensued. He did not, however, indorse the bacteria or germ theory. He would lance the gums of the child to arrest nervous irritation, thus stopping the diarrhœa, and would then place the child on a particular diet. He would feed nothing but milk, and eschew all starchy food.

The next paper was by Dr. J. B. Casebeer, of Auburn, Ind., on Pædiatric Medication and its Relation to General Medicine. The writer advocated greater care in apportioning the size of the dose to the age and condition of the infant, and said that more attention should be paid to employing agreeable vehicles for the administration of medicines. The treatment of children calls for the best efforts of the most scientific and skilful in our ranks.

Further discussion in this Section was chiefly on Infantile Paralysis, following a paper by Dr. Teale, and on the identity or diversity between croup and diphtheria, with special reference to the treatment of the latter disease.

SECTION OF DENTAL AND ORAL SURGERY.

First Day.—In the Section on Dental and Oral Surgery, a paper on Denudation or Erosion of the Teeth was read by Dr. John S. Marshall, of Chicago.

This is a disease which attacks these organs, beginning with the enamel, and gradually involving the subjacent dentine, without any of the appearances or characteristics of dental caries. It consists of a general wasting of the enamel and dentine, generally upon the labial and buccal surfaces, most often beginning with the incisors, though it may attack other teeth first, and may involve all of the teeth to the second molars. It usually begins at the gum, forming grooves or cavities which follow the curves of the gum lines. They are as evenly and smoothly cut as though made with a file or disk, are highly polished, perfectly hard, and many times absolutely free from discoloration. The surface of the grooves is generally quite sensitive, sometimes exquisitely so, causing the patient much uneasiness and pain. Occasionally the process begins at numerous irregular points on the labial surface, which extend, and after a time coalesce, involving the loss of the entire enamel wall of the surface. The disease progresses in rare cases as far as the pulp, laying that organ bare, while in the majority, nature provides against it by filling up the pulp chamber with secondary dentine, and thus protecting it from exposure.

Second Day.—The Section on Dental and Oral Surgery met at the Vocal Society Rooms. Dr. Williams acted as chairman instead of Dr. Goodwillie, whose case is under advisement of the Judicial Council. In the absence of a regular programme, Dr. John Marshall reported a curious case of pyrrhea alveolaris treated by himself and Dr. W. W. Allport, his professional associate. In this case the alveolar processes surrounding the anterior upper teeth upon the labial surface were destroyed, the teeth being very loose, and the roots distinctly felt through the gums. There was a very profuse discharge of pus, and a probe could be passed from the margin of the gums to beyond the apex of the left lateral incisor and left canine, forming a pocket above. The other teeth were affected in a less degree, the loss of osseous tissue extending from the margin of the gums to the junction of the middle and upper third of the roots. The case was treated by thoroughly scraping the roots of the teeth and the diseased edges of the alveolar process with chisels made for the purpose and afterward injecting dilute aromatic sulphuric acid, and later on phenic acid in solution.

The case, when discharged, after being under treatment for about three months, was entirely cured, the teeth were firm, and the lost osseous tissue about the apex of the teeth was seemingly restored.

Dr. Eugene S. Talbot gave the history of two cases of blood-poisoning from alvolar abscesses.

The Section adjourned after nominating officers for the ensuing year. The nominees are: For chairman, Dr. T. W. Brophy, of Illinois; for secretary, Dr. John S. Marshall, of Illinois.

Third Day.—The Section on Dental and Oral Surgery met with Dr. W. W. Allport, of Chicago, ex-President of the American Dental Association, acting as chairman in the absence of Dr. Goodwillie.

Dr. George D. Parmelee read a paper on Diseases of the Maxillary Sinus.

Dr. John Marshall read a paper prepared by Dr. W. W. Allport, of Chicago, in which a case of amaurosis dependent upon dental irritation was related, extending over a period of two years. Ophthalmologists who were consulted on the subject were entirely unable to find a cause for the difficulty, and no one seemed at all to understand the case. Finally, the lady so affected applied to her dentist, who found that the trouble lay in partial calcification of the pulp, which was finally removed entire, and the pulp canal permanently filled.

Dr. Marshall reported for the committee appointed to consider the appointment of dental surgeons in the army and navy that there had been a misunderstanding in presenting the matter to the Surgeons-General of the Army and Navy. It is intended to ask their co-operation in gathering statistics of dental diseases among soldiers and sailors, that data may be obtained on which to base an opinion of the needs of the service for such surgeons. On motion of Dr. Williams, the committee was continued.

SECTION OF STATE MEDICINE.

First Day.—The Section in State Medicine met at the United States Court Room in the Post Office building. The only paper read was that of Dr. Albert L. Gihon, of the United States Navy, on Medical Education the Fundamental Fact in Medical Ethics. Beginning with a reference to the moot point in ethics, the reader declared his conviction that professional incompetence should be made the only ground for disfellowshipping any medical practitioner, and claimed that not sufficient attention was paid to securing a thorough medical education even among regular physicians. It was taking too much for granted to assume, as does this Association, that a "regular medical education is presumptive of professional abilities and requirements." Allusion was made to the experience of the Government Examining Boards. Of 1141 candidates for the medical corps in the twenty years since 1853, only 370, or about thirty-two per cent, have been accepted. . . . The examiners have not declined the application of any candidate, but have examined homœopaths and eclectics and graduates of no college when they presented themselves. None of these persons have been passed on account of their incompetence, but the speaker admitted that they had no lack of peers in ignorance among the alumni of institutions of the greatest renown and regularity. Many instances of such incapacity were given. The speaker urged a hearty support of the attempts of a few colleges, notably Harvard and the University of Pennsylvania, to raise the standard of medical education. These efforts will avail little, so long as the Association unconcernedly witnesses and indirectly countenances the wholesale manufacture of doctors elsewhere, by accepting their membership without question of their competence. The time has come when something more than paper bulwarks shall be considered defence for our orthodox stronghold, and paper partitions sufficient to separate the sheep from the goats.

Second Day.—The Section on State Medicine met at the Young Men's Christian Association Chapel, with the chairman, Dr. Foster Pratt, of Michigan, in the chair.

Dr. H. A. Johnson, of Chicago, read a paper on the Working of the Illinois State Board of Health. Dr. Johnson opened his address with the statement that this board is no longer an experiment; with the close of this month will end the sixth year of its existence. During these six years it has at least met the expectations of those who were most active in promoting its formation. He then gave a synopsis of the work of the Board since its organization, July 1st, 1877. There are on the Board beside the so-called regular physicians one homœopathic physician, one eclectic physician, and two laymen. Dr. Johnson stated that there has been some criticism of this composition of the Board, but that has been mostly disarmed by the result of the working of the Board, for a large number of irresponsible quacks have been driven from practice in the State. Few advertising or itinerant quacks now remain in Illinois. Where, in 1877, there was one so-called doctor to every 399 persons in Illinois, now there is only one doctor to every 620 people. Dr. Johnson concluded his address as follows: "In its work the Board has promptly utilized all available agencies, and alike in the protection of our southern extremity from yellow fever, through its connection and influence with the Sanitary Council of the Mississippi Valley, as in guarding our eastern boundary from imported small-pox, through the emigrant inspection system of the National Board of Health, it has demonstrated the feasibility of a public health service in entire consonance with any or all political theories, whether of "States rights" or "national sovereignty." Possibly this was to be expected of a State whose coat of arms bears both these mottoes. It is none the less gratifying, however, to discover an organization capable of defining State medicine in a cosmopolitan spirit, and thence to avail itself as quickly of the resources of the Federal treasury and national authority on the one hand, as of the moral and material support of a volunteer co-operation on the other." The reading of this paper was followed by an earnest discussion.

Dr. John H. Rauch, Secretary of the Illinois State Board of Health, with Dr. Johnson, answered numerous questions asked them concerning the board.

Dr. Hopkins, of New York, said that he considered it inconsistent in the American Medical Association that there should be a body of physicians in Illinois who, acting with eclectics and homœopaths, license eclectics and homœopaths, while the whole world is turned upside down because the New York Association only proposes to adopt a new code of ethics, while practically such a new code is in operation in Illinois.

Drs. Johnson and Rauch maintained that the code is not violated by the doctors on the Illinois Board of Health, but that they simply act with the two so-called irregular physicians on that board in an official capacity, as they would with any citizens appointed on it.

SECTION OF OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY.

First Day.—The Section on Ophthalmology, Otology, and Laryngology met in the Board of Education Rooms. Dr. Lawrence Turnbull, of Pennsylvania, read a paper on the Paralysis of the Facial Nerve as Connected with Ear Diseases, which was largely discussed.

Dr. W. C. Jarvis, of New York, presented a paper on Removing Enlarged Tonsils without hemorrhage by Means of his Snare.

A paper on the Action of Nitrate of Silver on the Mucous Membrane of the Throat and Nose, by Carl Seiler, M.D., of Philadelphia, in which he stated his opinion that nitrate of silver was not a caustic, drew forth much discussion, the majority of those present agreeing with the author's theory.

Second Day.—At the Board of Education Assembly Room in the Public Library Building the Section on Ophthalmology, Otology, and Laryngology held its second day's session, beginning at 2.30 o'clock, with President Chisholm in the chair. After the reading of the minutes of the previous session the President appointed Drs. Conner, Williams, and Seiler a committee on publication, after which Dr. Lawrence Turnbull, of Pennsylvania, read a paper on Tinnitus Aurium and Deafness which Accompanies the Different Forms of Bright's Disease, in which he stated that in all cases of Bright's disease ear symptoms are present, and especially in that form in which fatty degeneration of the kidneys has taken place. The paper was quite freely discussed by Drs. Frothingham, of Ann Arbor, Mich.; Coser, of Williamsport, Penn.; Connor, of Detroit, and Turnbull, of Philadelphia. Dr. J. L. Thompson, of Indianapolis, then read a paper on Questions on the Ætiology of Some Forms of Lenticular Opacity, describing a peculiar opacity in the lower periphery of the lens, which comes on suddenly and remains unaltered for years, causing blindness, but differing from cataract. The doctor said that he was ignorant of the cause, but had found it in cases of diabetes. In the discussion which followed Dr. Noyes, of New York, said he had seen similar cases, and they were not infrequently associated with myopia, of molecular form. There was another class of cases, the cause of the opacity being choroidal retinitis, occurring more frequently in the lower periphery of the lens, and the doctor thought it was due to alteration in the nutrition of the hexagonal epithelium.

Dr. Howe, of Buffalo, said that opacity of the lens was frequently absorbed by tearing the capsule.

The next paper read was a Case Illustrating the Segmental Feature of Glaucoma, by Dr. H. Culbertson, of Ohio, in which its author discussed the causation of glaucoma.

A prolonged discussion of the discourse ensued, following which Dr. Roe, of Rochester, N. Y., read a paper on Nasal Disease as a Cause of Asthma, in which he showed that nasal obstruction or irritation of the mucous membrane would give rise to severe attacks of asthma. Dr. Seiler, of Philadelphia, opened the discussion by saying that he had had cases under treatment in which the touch of the probe to the diseased spot had caused an attack of asthma, and that the cure was to cauterize the spot. He said, in addition, that hay asthma, or, as it is commonly called, "hay fever," was due to the same cause, and could always be cured by removing the chronic nasal irritation which is aggravated by the pollen always floating in the air in early autumn.

Dr. Frothingham, of Ohio, said he could not see that these cases differed from any ordinary cases of inflammation of the bronchial tubes.

At 5.45 P.M. an adjournment was had.

Third Day.—We have space to mention only the paper by Dr. Rumbold, of St. Louis, on the Appearance of the Mucous Membrane of the Throat and Nose in Adult Patients. He stated that the inflammatory process in mucous membrane produced different appearances in patients of different ages, and that in smokers the color of the mucous membrane, and especially of the vocal cords, is always abnormal. He said also that in most cases of irritation of the throat the cause was to be looked for in disease of the naso-pharyngeal space. In the discussion which followed, Dr. Seiler, of Philadelphia, said that he agreed with the author of the paper as to the cause of chronic laryngitis, and that it would get well if the nasal catarrh were cured. As to the discoloration and disease of the vocal cords in smokers, he differed from Dr. Rumbold, and said that his experience had shown him that cigarette smokers were always affected with chronic laryngitis, because of inhalation of the smoke; but cigar and pipe smokers were never so affected.—*Boston Journal.*

PLEASE insert the following in your journal:

HALL OF THE ST. LOUIS MEDICAL SOCIETY,
POLYTECHNIC BUILDING, COR. 7TH & CHESTNUT STS.,
June 23, 1883.

On June 23d, 1883, Dr. Atwood introduced the following, which was adopted by the St. Louis Medical Society, after some considerable discussion:

WHEREAS, At the recent session of the American Medical Association, a preamble and resolution were offered for the consideration of said Association, purporting to represent the sense of the St. Louis Medical Society upon the propriety of preparing a new code of ethics, or altering and changing the existing code in accordance with the present relations of the profession, and

WHEREAS, In said preamble the assertion is made that, "the Code has accomplished all it was designed it should, but at present many of its features are obsolete and not adapted to our wants. The necessity of an early revision is very apparent, is loudly called for in all parts of our land, and cannot be repressed much longer. . . . The time has come when the loud and very soon universal call will have to be heeded;" and

WHEREAS, The St. Louis Medical Society did not instruct, "That the Committee be authorized to prepare a code of ethics which in their view will meet the wishes of the profession, and submit the same to the meeting of 1884;" therefore,

Resolved, That the St. Louis Medical Society distinctly repudiates the statements contained in said preamble, and again expresses its fealty to the existing code of ethics as a time-honored and most suitable fundamental law of the profession, and specially deprecates any action calculated to reflect upon its loyalty to those principles which have heretofore secured immunity from the machinations of schismatics within or enemies without.

A. H. OHMANN-DUMESNIL, M.D., Rec. Sec.

THE AMERICAN NEUROLOGICAL ASSOCIATION (*Medical Times*).—The ninth annual meeting of the American Neurological Association was held in New York City, 1883, with two sessions each day, afternoon and evening. Dr. T. R. Edes, of Boston, President of the Society, occupied the chair.

In his address at the opening of the session, Dr. Edes discussed recent progress in neuro-physiology, and more especially the advances in the theories of cerebral localization in their relation to clinical medicine and therapeutics. He declared that the clinician often does not sufficiently distinguish between the symptomatology of functional and organic disorder of the nerve-centres, and consequentlly cases are reported as instances of organic disease cured by treatment, although they may really have been instances simply of functional disorder. On the other hand, he claimed that pathologists are too apt to regard the changes discovered in post-mortem examination as existing throughout the course of the disease, whereas they are gradual and progressive, and are often preceded by a period of purely functional disorder.

The death of Dr. Beard was alluded to, and a letter was read from Dr. E. Seguin, now in Zurich, regretting his inability to perform his duties as Secretary, and asking to be relieved of them.

Dr. R. W. Amidon, of New York, was appointed Secretary *pro tem.*

The Council recommending the following candidates, Drs. Leonard Weber, of New York, G. L. Walton, of Boston, and J. T. Eskridge, of Philadelphia, they were unanimously elected to active membership in the Association.

A ballot for officers was held, with the following result: *President*, Dr. Isaac Ott, of Easton, Pa.; *Vice-President*, Dr. W. R. Birdsall, of New York; *Secretary and Treasurer*, Dr. R. W. Amidon, of New York; *Members of Council*, Drs. V. P. Gibney, and W. J. Morton, of New York.

On motion, a minute was directed to be made of the death of Dr. George M. Beard, Drs. C. L. Dana and C. K. Mills being appointed by the chair to prepare it.

TRAUMATIC NEURITIS OF THE ARM.

Dr. W. J. Morton, of New York, reported a case of a man, sixty-five years of age, who, after a dislocation of his shoulder had been reduced, presented a peculiar condition of the hand. There was decided pain and swelling of the wrist and hand, with lowering of temperature; the skin was smooth, glazed, and mottled; there was more or less œdema; the nails were curved, the finger ends clubbed; movement was painful and very much impaired; there was an exaggeration of tactile sense, and diminished temperature-sense; the electrical response was altered, and approached the reaction of degeneration in the right forearm. About ten months after the appearance of the symptoms a similar series of phenomena appeared on the left side, though to a much less degree. The case was regarded as one of injury to the right brachial plexus, caused by direct injury to the shoulder, followed by motor and sensory disturbance below, and also by an ascending neuritis, which subsequently led to the changes upon the opposite side. The symptoms that were peculiar in this case were the fibrous hyperplasia, and, secondly, the increased reflex excitability. Dr. Morton concluded, therefore, that neuro-muscular hyperexcitability may exist as a symptom of ascending neuritis when this has extended to the spinal centres.

This peculiar condition had been discovered by Charcot in cases of hypnotism, but had never before been reported as a phenomenon of traumatism of peripheral nerves. Dr. Morton then presented the patient, who was examined with general interest. The treatment had been by blistering along the course of the nerves, and the hot and cold douche, with the internal administration of cod-liver oil, with marked benefit.

In the discussion upon the case the explanation of Dr. Morton was accepted, and other cases of traumatic neuritis referred to. In the treatment Dr. Hammond insisted upon physiological rest for the inflamed nerve, and to obtain this he had practised nerve-stretching. Dr. Putnam, of Boston, recommended the ice-poultice, kept on continuously for many hours in succession, the precaution being taken not to freeze the skin, by placing a piece of flannel on its surface.

HYDROBROMIC ACID AND THE BROMIDES.

Dr. C. L. Dana read a communication entitled a "Note on Hydrobromic Acid as a Substitute for the Bromides." Dr. Dana claimed that the officinal ten per cent solution of hydrobromic acid is an efficient substitute for the alkaline bromides in *insomnia*, but it should be given in doses much larger than those usually employed. He had found that very satisfactory results could be obtained from drachm doses of the officinal dilute solution. The bromides may be substituted by the acid in all the milder disorders for which they have been used. Especially in cases requiring vascular and nervous sedation is the acid serviceable, and he had used it in a number of cases with benefit. In *epilepsy* some patients had been markedly improved by drachm doses four or five times a day ; others had not received any good from its use. In *chorea* and *alcoholism* it had proved an adjunct to other treatment. It is a good solvent of quinine, but Dr. Dana stated that, contrary to the usual belief, it does not prevent cinchonism.

Dr. Hammond, in discussing the paper, said that after several years' experience he had abandoned the use of this agent because of its inferiority to the bromides ; he was satisfied, however, that it really does possess the power of preventing the unpleasant nervous effects of quinine.

Dr. Eskridge confirmed the statement that cinchonism is controlled by hydrobromic acid ; he also recommended its use in typhoid conditions to relieve insomnia.

PECULIAR SYMPTOMS OF LEAD-POISONING.

Dr. J. J. Putnam, of Boston, read a paper entitled "Lead-Poisoning Simulating other Forms of Disease," in which he also directed attention to a source of error in examining the urine for lead from the similar reaction produced by bismuth.

He insisted upon the importance of a routine examination of the urine in all cases of suspected lead-poisoning, even when the symptoms may appear to indicate other disease.

After referring to a case in which the nervous phenomena appeared to indicate the presence of *lateral sclerosis*, reported by Dr. Minot (in which lead was found in the urine, and the patient recovered after the administration of iodide of potassium), he gave the details of eight cases which had come under his notice, where the symptoms had not been characteristic of lead-poisoning, but lead had been detected in the urine, and upon the urinary analysis the diagnosis had been made. He referred particularly to cases of nervous disorders presenting symptoms of disease of the spinal cord, dyspepsia, lithæmia, and chronic nephritis, which were found to be due to lead-poisoning. Under the head of lead-encephalopathy, a number of nervous symptoms have been described, among which the most prominent are delirium, mania, dementia, epilepsy, and coma, but there are doubtless a large number of less clearly defined phenomena which are attributable to this cause.

He recommended the administration of potassium iodide for several days prior to the urinary examination, and directed that at least one quart of urine should be employed for the analysis. From personal experiment he had found that bismuth will respond equally well to the tests usually employed, and he declared that traces of bismuth may still be detected in the urine several weeks after its administration by the mouth.

A URINAL FOR WOMEN.

Dr. Putnam also exhibited a copper cup of appropriate shape, having an inferior attachment to rubber tubing, so as to convey its contents to any desired receptacle. The apparatus was intended to be used as a urinal by female patients while sitting in a chair.

A CASE OF GENERAL NEURALGIA.

Dr. J. T. Eskridge, of Philadelphia, reported the following interesting case of nerve-disorder. A German, twenty-nine years of age, free from venereal or inherited taint (father died of acute spinal disorder), a laborer in a foundry, came to St. Mary's Hospital, January 15th, 1883, with the following history: He had had three healthy children, and had been usually in good health until 1873, when he had an attack of pneumonia, and was in bed four weeks. Subsequently he was well until two years ago, when he caught cold from sleeping in a damp bed. He then had a dull aching pain in the spine, with sciatica on the left side, but he managed to keep at his work in the foundry. In October, 1881, he accidentally burned his left foot superficially with hot iron, which confined him in bed in a hospital for ten weeks; after this rest he returned to his work, comparatively free from pain, but the pain returned shortly afterward in the left leg and ankle, which progressively increased until it obliged him to return to the hospital, in October, 1882. He again improved for a time, but the symptoms returned after he resumed his work, so that in January, 1883, he was scarcely able to walk, and he came to the hospital complaining of great pain in the leg and back. There was tenderness along the spine in the dorsal and lumbar regions, extending down the nerve-trunks in the left leg, which were also the site of intense neuralgic pain. The right leg remained normal, but double intercostal neuralgia soon appeared and became constant. Alternating hot and cold applications to the spine and along the left sciatic gave great relief. The patient slowly improved under general treatment. Most of the large superficial nerves, except the fifth nerve, were painful upon pressure. The case was pronounced one of general neuralgia, in preference to the view of its being a neuritis consequent upon spinal meningitis.

LOCOMOTOR ATAXIA AND GENERAL PARALYSIS.

A case of locomotor ataxia, terminating in general paralysis, was reported by Dr. Charles K. Mills, of Philadelphia. The man was forty-seven years of age, of good constitution, and had been under treatment for three years for so-called rheumatic pains. There was a history of chancre without sequential phenomena, and also of venereal excess and intemperance. Ataxic symptoms were well marked. Two years later the *délires des grandeurs* gradually appeared, and he finally died in a hospital for the insane. The autopsy revealed opacity of the pia mater, with congestion and adhesions ; there was marked decortication and atrophy of the cerebral convolutions. The pia of the cerebellum was likewise deeply congested and adherent, especially over the superior vermiform process ; the pia of the cord was also thickened, and the cord itself shrunken and irregular on its surface. Sclerosis of the posterior columns was present throughout the extent of the spinal cord ; it also extended to the pons, crura cerebellli, optic thalami, and in the cerebral convolutions, and into the cerebellum. There was also general meningitis of the pia mater.

Dr. Mills, in conclusion, referred to a number of other cases illustrating a relation between posterior sclerosis and general paralysis of the insane, reported by Obersteiner, Hamilton, Plaxson, Meckel, and others.

In the discussion similar cases were mentioned by Dr. Shaw and Dr. Webber.

SYMPTOMS OF PARETIC DEMENTIA.

Dr. E. C. Spitzka, of New York, presented some remarks on the supposed relation of speech-disturbance and the patellar tendon reflex in paretic dementia. In a former paper Dr. Shaw had pointed out a possible connection between exaggerated reflex and speech-disorder in general paralysis. The lecturer detected a source of error in an associated pathological condition of the brain. In paralytic dementia there is, as the rule, a diffuse disorder of the entire cerebro-spinal axis, the lesion being in different cases concentrated in the cord, in the cortex, and in the isthmus. A speech disturbance may be due to a high cortical lesion, and be permanent, or it may be connected with vaso-motor disturbance and be evanescent, just as in cerebral or meningeal hemorrhages speech may be permanently or temporarily affected. Speech-disorder may also be connected with lesions of the medulla oblongata. The presumption is that the exaggerated tendon reflex may be due to associated changes, since in a large number of cases no direct connection could be shown to exist.

Dr. Shaw, in reply, disavowed any intention of attempting to connect the spinal cord with the speech-centre, as implied in the paper just read. His paper had considered the condition of the tendon reflex in paretic dementia, and of seventy cases twenty-two exhibited an exaggeration. He merely wished to put these results of clinical observation on record, without discussing the pathology.

MENTAL LABOR AND THE EXCRETION OF PHOSPHORUS.

Second Day.—The President, Dr. Edes, read a paper on the " Excretion of the Phosphites and Phosphoric Acid as connected with Mental Labor." From a number of physiological experiments which he had made upon himself, he was unable to detect any increase of phosphorus-excretion after brain-work ; indeed, if anything there was a decrease. He concluded that the value of phosphorus as a remedy for mental fatigue or overwork must rest upon a clinical rather than a chemical basis.

UNUSUAL SYMPTOMS OF LOCOMOTOR ATAXIA.

Some cases of locomotor ataxia were reported by Dr. S. G. Webber, of Boston, which were considered interesting on account of unusual symptoms and marked remissions. The first case had simply gastric crises, which were very severe, but they had none of the other ordinary characteristic features of ataxia. The second had only a peculiar dyspnœa, due to exaggeration of the girdle sensation. Diabetes and deafness, sometimes unilateral, were present in other patients.

In another case there had been an entire remission of the symptoms for three years, and he regarded the case as virtually cured. He believed it reasonable to think that when the ataxic symptoms develop rapidly, the prognosis is more favorable than in the other class of cases.

Dr. Jewell, of Chicago, in discussing the paper, insisted upon the necessity of absolute rest in bed for months in locomotor ataxia, with massage and passive exercise to keep the muscles in good condition.

PRESENTATION OF INTERESTING CASES OF NERVOUS DISEASE.

Dr. R. W. Amidon presented a boy suffering with tetanoid paraplegia, the symptoms being preceded by indications of subacute hydrocephalus. He inquired if the tetanoid symptoms might not be due to secondary changes in the cord, due to extension of the cerebral disease downward. The pathology of the case was quite obscure.

Dr. Amidon also presented two cases of paralysis agitans, in which tremor was entirely absent.

Dr. V. P. Gibney, of New York, showed two cases of progressive muscular atrophy, and one with atrophy and fibrillary twitchings following gunshot wound.

DEVICE FOR WRITER'S CRAMP.

After a brief reference to some of the forms of apparatus devised for writer's cramp, Dr. Morton, of New York, explained his modification of Nussbaum's method of treatment, and showed a thimble penholder, the thimble being sufficiently long to cover the entire index finger. By thus enforcing extension and preventing flexion, much amelioration had been derived in his experience.

CASE ILLUSTRATING RESTORATION IN LOCOMOTOR ATAXIA.

Third Day.—Dr. G. A. Hammond presented a patient, forty-seven years of age, in whom, after presenting ataxic symptoms, with characteristic pains and absent patellar tendon reflex, there had been a return of this phenomenon, and every other symptom of the disease had disappeared. There was a history of syphilitic infection without subsequent symptoms. The treatment had been by potassium iodide, electricity, and the usual measures.

Dr. William A. Hammond corroborated the diagnosis in this case.

NUTRITIVE CHANGES FROM NERVE-LESIONS.

Dr. Miles, of Baltimore, reported an interesting case of nutritive changes in the hand from pressure of a dislocated humerus upon the brachial plexus. There was great deformity, glossy skin, loss of power, insensibility, which had all developed gradually after dislocation of the head of the humerus into the axilla, indicating the presence of neuritis.

COMPARATIVE CEREBRAL ANATOMY.

Dr. B. G. Wilder, of Ithaca, New York, read a brief description of the brain of a cat, in which there was complete absence of the corpus callosum, and exhibited a number of photographs. He also read a paper "On the Alleged Homology of the Carnivoral Fissura Cruciata with the Primatial Fissura Centralis."

Referring to the assumption of T. Lauder Brunton (*Brain*, January, 1882) "that these fissures correspond," Prof. Wilder made the following suggestions:

1st. Writers should specify whether by correspondence they mean *analogy* or *homology*, as a relation based upon the position of a fissure based its location among experimentally-determined "motor-areas," or a relation implying identity as determined by embryology and comparative anatomy.

2d. The present disagreement of competent authorities respecting the homology of these two fissures should restrain both physiologists and zoologists from assuming the correctness of any particular view; for example, the human centralis has been homologized with not only the cruciate, but the superorbitalis, the coronalis, and the ansata, together with the coronalis (in connection with the last idea was shown a fœtal human brain exhibiting the somewhat rare condition of an interruption of the centralis); the cruciate has been homologized with not only the centralis, but with the first frontal, the calloso-marginalis, and the occipito-parietal; *i.e.*, the surest method of determining the true homology seems to be the one which is outlined in Wilder and Gage's "Anatomical Technology," to make careful and extended comparison between the brains, especially fœtal specimens, of man, monkeys, and the *lemurs* on the one hand, with those of cats, dogs, and seals on the other.

The lemurs are primates with some characters of the carnivora, while the seals, though carnivora, have the occipital lobe and the post cornu of the procœlia (cornu posterius of the ventriculus lateralis).

THE TREATMENT OF MIGRAINE.

Dr. W. J. Morton read a paper upon the treatment of migraine. Adopting the hypothesis of Du-Bois Reymond that migraine is due to a contraction or tetanic state of the blood vessels of the affected side, he claimed that this "vaso-motor theory" affords a definite working basis for the practical treatment of the disease in which clinical observation and physiological experiment are in complete accord. The best evidence seems to point to the cervical sympathetic or its corresponding spinal centre as the cause of the vaso-motor disturbance and the site of the disease. As one or the other is affected, cases will be of the angeio-spastic or angeio paralytic type of the affection, the former being more common. The treatment is based upon the type of the disease. In the *spastic*, sodium bromide is very serviceable, continued, if need be, for months. Cod-liver oil and iron may also be given conjointly. Both glonoin and nitrite of amyl also are useful. In the *paralytic* type, on the other hand, strychnia, ergot, and electricity are most serviceable.

In the discussion, Dr. Hammond suggested the surface thermometer as a means of diagnosticating the two types. Drs. Mills and Dana could not indorse the views so positively put forth.

SYPHILIS AND LOCOMOTOR ATAXIA.

Dr. W. R. Birdsall, of New York, read a paper in which he presented statistics with reference to the relation between syphilis and locomotor ataxia. He had collected five hundred and twenty-five cases of locomotor ataxia, of which two hundred and twenty-five had syphilis (forty-three per cent). The cases were from Rosenthal, Bernhardt, Remak, Westphal, Pusinelli, Gowers, Fournier, Erb, together with forty-two which had come under his own observation. There was a marked difference in the percentage of syphilis in the cases reported by different observers. For instance, Erb, in one hundred cases, reports syphilis present in eighty-eight per cent, while in his own cases (forty-two) only four per cent of the patients had syphilis. Probably the differences were due to accidental relations.

EXHIBITION OF APPARATUS.

An improved hand-electrode, for making careful tests of the electrical condition of tissues, was exhibited by Dr. Birdsall. By an ingenious arrangement the current could be interrupted and reversed at the same time while the electrode was being employed in making the examination.

READ BY TITLE.

A paper sent by Dr. H. D. Schmidt, of New Orleans, on the "Pathological Anatomy of the Cerebro-Spinal Axis of a Case of Chronic Myelitis of Nineteen Years' Standing," was read by title, and referred.

GALVANIZATION OF THE BRAIN IN CHOREA.

Dr. C. L. Dana, of New York, read a "Note on the Treatment of Chorea by the Sedative Galvanization of the Brain." He reported eight cases of anodal cerebral galvanization; the patients all recovered. He claimed it as a valuable adjunct to the treatment of chorea, and said that it may be combined with advantage with the internal administration of arsenic. The method of application is as follows: A large sponge-electrode of flexible brass, four by two inches, is thoroughly moistened with salt water. The hair of the patient is also thoroughly wetted, and the electrode applied over the side of the head above the ear. In hemichorea it need only be applied over the side opposite to the one affected. The other electrode is placed in the hand of the affected side. The electrode upon the scalp is made positive, and a current, three to six Stohrer's, four to eight Daniell's cells, is passed for from three to five minutes. The electricity should be applied daily for at least ten days. If after that time there is no improvement, other treatment may be instituted.

THE REMOVAL AND PRESERVATION OF THE HUMAN BRAIN.

Dr. Burt G. Wilder read a paper insisting upon the importance of careful removal of the brain for histological research, and described the methods in use at Cornell University. He said that the calvaria should never be removed with a jerk, but by sawing through a little to one side of the great longitudinal sinus, and then removing the sides carefully after releasing the dura by means of a thin-bladed flexible knife with curved point. The brain should never be allowed to support its own weight, but should be suspended in strong brine. Several points concerning the handling of the brain were mentioned. The method of preservation which he preferred was by means of alcohol, beginning with fifty or sixty per cent, and gradually increasing the strength until the ordinary ninety-five per cent is reached. He also passes alcohol through the vessels of the brain in a continuous stream for some time, and, besides, irrigates the central cavities of the brain. Whether brains hardened in this manner are well preserved for microscopical examination he was unable to say.

PAPERS READ BY TITLE.

Dr. Wilder also presented a paper entitled "On Some Points in the Anatomy of the Human Brain," which was read in part, and referred.

A paper by Dr. E. C. Spitzka, on "Lesion of the Stratum Intermedium," with remarks and specimens illustrating the anatomy and physiology of this tract, was also read by title.

CASES OF HYSTERIA.

Dr. G. L. Walton, of Boston, reported a case of hysterical hemianæsthesia in a man, following injury; and another one of hysterical anæsthesia of special senses (hearing, smell, and taste) accompanying cutaneous hyperæsthesia. Both cases were relieved by the use of the magnet.

The Association adjourned, to meet at the call of the Council.

CORRESPONDENCE.

RICHMOND, VA., July 19, 1883.

E. S. GAILLARD, M.D.—*My Dear Sir:* In a copy of your journal for April 7th, 1883, I notice a case of ainhum reported by Dr. A. C. Love, of Donaldsville, La. As this is a disease of rare occurrence in North America, I beg leave to add to the doctor's report one case that occurred in my practice about three years ago. It corresponded exactly with that reported, except in one particular; the same foot, same toe, etc., but the case I refer to occurred in a colored *woman*. I know well enough that *ainhum* is considered peculiar to men, but the fact remains that woman is not entirely exempt from it, as there was no doubt of the correctness of my diagnosis. Amputation resulted in a cure. I wish by writing this simply to put my case on record. Yours very truly,

CHAS. H. CHALKLEY, M.D.

SUBSCRIBED TO THE WRONG NEW YORK JOURNAL.

STOCKTON, CAL., June 12, 1883.

E. S. GAILLARD, M.D.—*Dear Sir:* The journal is a periodical of ability, and a representative of the conservative side of the profession. That does not suit us. Myself and brother are in active sympathy with the advanced and growing ethical sentiment of untrammelled opinion and action in medical practice. The abject and insufferable folly of pursuing a member of the fraternity, under the bastard charge of *heresy*, because he gives countenance to homœopathy, is as despicable as the zealots of the Inquisition of the dark ages in the past. You ought to get above it.

Respectfully yours, A. S. H., M.D.

LOVELAND, COL., June 12, 1883.

DR. GAILLARD: The Missouri doctor, mentioned in your number of May 19th, reminds me of a homœopathist of our town, Loveland, Col., who allows his patients to drink milk unstrained. He also has three kinds of medicines, which he arranges in cups numbered, one, two, and three, and are to be taken in regular order; but before taking, each one must be stirred, "the way the sun goes," with a horn spoon or a piece of whalebone; then it is taken from the horn spoon. If proper attention is not given to stirring the medicine, the right effect, he says, is not produced. Yours truly, O. W. SPICER.

SANITARY DEPARTMENT.

SANITATION.—It is even possible that sanitation may become fashionable among the profession and the people. In all parts of the civilized world there is an increased interest in sanitary matters, and in England and Germany even the royal families are setting the fashion by their connection with sanitary institutions. In London the Duke of Connaught opened the new building of the Parkes Museum; in Berlin the Empress Augusta is patroness of the Hygienic Exhibition, while leading English scientists, like Professor Huxley, are turning their investigations toward advancing sanitary science. Under such circumstances, and with the well-recognized fact that every physician should be able to show how diseases caused by a neglect of sanitary laws are to be prevented, as well as to be cured, the necessity for a department of this kind needs no argument. Every reader of this journal will be therefore glad to have, in every issue, sanitary facts of interest and value. This department will be managed with great care, and it is hoped that it may monthly increase in interest and value.

REGULATION OF CONTAGIOUS DISEASES IN MICHIGAN.—§ 1. *The People of the State of Michigan enact*, that sections 1734 and 1735 (being compiler's sections 43 and 44 of chapter XLVI.) of the compiled laws of 1871, be and the same are hereby amended so as to read as follows:

(1734) § 43. Whenever any householder, hotel keeper, keeper of a boarding-house, or tenant, shall know, or shall be informed by a physician, or shall have reason to believe, that any person in his family, hotel, boarding-house or premises is taken sick with small-pox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall immediately give notice thereof to the Health Officer, the President, or the Clerk of the Board of Health of the township, city, or village in which he resides. Said notice shall state the name of the person sick, the name of the disease, the name of the householder, hotel keeper, keeper of boarding-house, or tenant giving the notice, and shall by street and number, or otherwise, sufficiently designate the house in which he resides or the room in which the sick person may be; and if he shall refuse or neglect immediately to give such notice, he shall forfeit for each such offence a sum not exceeding one hundred dollars: *Provided*, That this penalty shall not be enforced if a physician in attendance has given to the health officer or other officer hereinbefore mentioned an immediate notice of said sick person, and true name of the disease, in accordance with the requirements of this section.

(1735) § 44. Whenever any physician shall know that any person whom he is called to visit, or who is brought to him for examination, is infected with small-pox, cholera, diphtheria, scarlet fever, or any other disease dangerous to the public health, he shall immediately give notice thereof to the Health Officer, the President, or the Clerk of the Board of Health of the township, city, or village in which the sick person may be; and to the householder, hotel keeper, keeper of a boarding-house, or tenant within whose house or rooms the sick person may be. The notice to the officer of the Board of Health shall state the name of the disease, the name, age, and sex of the person sick; also the name of the physician giving the notice; and shall, by street and number, or otherwise, sufficiently designate the house or room in which said sick person may be. And every physician and person acting as a physician, who shall refuse or neglect immediately to give such notice shall forfeit for each such offence a sum not less than fifty nor more than one hundred dollars : *Provided*, That this penalty shall not be enforced against a physician if another physician in attendance has given to the Health Officer, or other officer herein before mentioned, an immediate notice of said sick person, and the true name of the disease, in accordance with the requirements of this section.

§ 50. For each complete notice in writing to an officer of the Board of Health, in full compliance with the preceding section, requiring from physicians or other persons notices of diseases, dangerous to the public health, the physician who gave the notice shall be entitled, on duly certifying that each notice was correct, and when the bill has been duly audited by the Board of Health, to receive from the township, city, or village in which the notice was given, the sum of ten cents.

Takes effect September 7th, 1883.

THE OLD CESSPOOL.—Dr. E. M. Snow described, in 1857, the old cesspool as follows, and the description is as good to-day as it was then :

" It is a common custom to sink a barrel in the ground for the cesspool, and lay a wooden trough, loosely covered, for the sink drain. The barrel and trough soon become rotten, and the whole becomes a worse nuisance than the sink water alone. For the best houses a cesspool is built of loose stones, at a distance from the house, but frequently near the owner's or his neighbor's well ; a drain is built of brick, six or eight inches square, from the house, and a pipe without any sufficient trap connects the sinks with the drain. The privy vaults are, to a great extent, built in the same manner as the cesspools, with open walls to allow the escape of the contents into the surrounding soil. There is no small number of houses where the privy vaults, cesspools, and wells are in such close proximity *that there is a constant exchange of their contents going on through the ground, and it is difficult to say which of them are most injurious. The well, however, being the deepest generally acts as a drain for the others and frequently becomes so filthy that it cannot be used.*"

All this is applicable to many towns to-day ; but it is when he comes to speak of the means of doing away with these evils that Dr. Snow's words are of the greatest interest. He says :

" The only practicable remedy for the cesspool nuisance is the construction of air and water-tight channels underground, which will convey all the filthy liquids rapidly and without obstruction away. Such is the true character and objects of sewers, and the only description of sewers which should be allowed. . . . *A poorly constructed sewer is in fact nothing but an extended cesspool.* Sewers very often are built of rough stones, not cemented, with flat bottoms, and were intended for the drainage of the ground. As the practice of permitting filth from sink drains, etc., to enter the street drains has increased, these drains have become offensive and dangerous nuisances. Street drains for receiving surplus water from the neighboring soil, and sewers for carrying off filthy water, are entirely distinct in their objects and should be entirely different in their construction."

He then quotes the recommendations of the General Board of Health of England with regard to the size of sewers, and concludes that a pipe one foot in diameter would carry off all the house sewage, and so much of the surface rainfall as it would be necessary to provide for from any street in the city.

ADULTERATION.—The *Revue des Deux Mondes*, of June 15th, contains an article by M. Denys Cochin, entitled " Les falsificateurs et le laboratoire municipal," which is interesting, and in some respects amusing, and of which the following is an abstract:

The art of adulteration is now one of the most interesting sections of chemistry. In days of yore the milk dealer on the corner poured a little water into his tin cans, and the wine merchant in his cellar manufactured secretly by the light of candle his decoctions of logwood. But the milkman and the wine seller have progressed with the age, and their work has become scientific. They can consult dictionaries and systematic treatises on adulteration. Taking one of these as his guide, M. Cochin proceeds to draw up a bill of fare, with regard to which he acts the part of Sancho Panza's physician, who, it will be remembered, objected to every dish set before his master, on the ground that it was unhealthy.

The tapioca soup is made of potato starch, contaminated with copper; the bright green pickles owe their color to the same metal. The fish has been preserved by an antiseptic salt; the sauce makes it palatable, but very few know what makes the sauce palatable. The butter which it contains is no longer made from cream. Part of it is margarin, part of it is butter improved with gypsum, silicate of potash, sulphate of baryta, potato starch, and coloring matters of various kinds.

The truffles with the roast are made of earth, potatoes and hycoperdons duly flavored. The peas and spinach owe their beautiful green to copper.

The digestion of these products of the laboratory is supposed to be aided by coffee, cognac, and a cigar. The coffee may contain chiccory beans, corn, carrots, caramel, sawdust, and horse liver. The cigars are in a handsome box bearing Havana stamps, but are made of poor German tobacco, cabbage leaves, willow leaves, etc. And the brandy! The Omniscient alone knows what that is compounded of.

If the next morning after such a meal the diner feels dyspeptic and feverish, his physician will probably order him a glass of mineral water, and this is made artificially!

Malaria, it has been estimated by the War Office, costs Italy $2,000,000 per annum for the maintenance of hospitals alone. The damage to the national wealth cannot be estimated. In 21 out of 69 provinces the ravages of the disease are most severe, and only six are free from it. It is said that the disease has became more virulent since the construction of railways has necessitated earth cutting and the baring of stagnant waters.

The Board of Health of Argyle, New York, have published the rules adopted by them for the information of the citizens, a course which it is wise for all village boards of health to follow.

The Board of Health of Asbury Park, N. J., are enforcing an ordinance forbidding the use of leaching cesspools.

The New York State Board of Health are doing a good work in inspecting the dwellings occupied by laborers on the railroads now building in this State. The occupants are commonly of the lowest, filthiest class of Italians, whose filth may become the breeding ground for disease among themselves and others.

Typhoid Fever.—In a recent lecture at the Parkes Museum of Hygiene in London, Prof. Corfield said that in his opinion a main cause of the spread of typhoid fever in London and other large English cities was the connection of the drinking water cistern overflows directly with some part-of the drainage system. When connected with the soil pipe, as he put it, "the foulest pipe in the house, and frequently the street sewer, was carefully ventilated into the household supply of drinking water."

Plumbing.—Dr. Raymond, Health Commissioner of Brooklyn, says that the plumbing law is the most important step in sanitary progress that the city has ever seen. The average number of people in a house in Brooklyn is nine, and in the two thousand dwellings that have been put up since the law went into effect, there are 18,000 people who may consider themselves safe as far as plumbing is concerned.

The Board of Health of Jacksonville, Fla., forbid keeping hog-pens within one hundred feet of any sleeping apartment, and require dead animals to be buried not less than one hundred yards from any spring, creek, or well.

REVIEWS.

The Practitioner's Ready Reference Book. By R. J. Dunglison, M.D. Philadelphia: H. C. Lea's Sons, 1883.

This is the third edition of this familiar work. It is an established favorite, and one which is of much practical value. Its tables are valuable, and so is much of that practical miscellaneous matter which every educated physician ought to know and remember well, but which by the majority is soon forgotten.

This edition has been so adapted as to be in conformity with the new U. S. Pharmacopœia.

So far, all is well in the present notice, or all reference, so far, is as to what is well done. It is to be regretted that there must be censure as well as praise. The chapter on antidotes is not only filled with errors, gross and inexcusable, but it is fully as conspicuously bad for its deficiencies. It is fearfully wrong and worthless. "'Tis true, 'tis pity; and pity 'tis, 'tis true."

Bacteria and the Germ Theory of Disease. By H. C. Gradle, M.D. Chicago: W. T. Keener, 1883.

A work like this is imperatively needed at the present time, when so much is being said about germs. The author is an able worker in the branch of medicine to which the present work is devoted, and is an enthusiastic yet critical follower of Pasteur and Koch. Every evidence, pro and con the germ theory of any disease, is fairly presented, and while the author has decided views of his own, the views of his opponents are very clearly presented. The first chapter takes up the germ theory, defines it, and gives a rapid résumé of the classification of bacteria, and dispels many false notions on the subject. The second chapter is devoted to the examination of bacteria, and the chief points of interest in their physiology, as related to disease in man, which subject is further continued in the third chapter. The methods of research for pathogenic bacteria are examined in the fourth chapter. The subject of surgical infections is discussed in the fifth chapter. Erysipelas, charbon, and tuberculosis in the sixth chapter, while glanders, typhoid fever, relapsing fever, variola, measles, diphtheria, leprosy, and syphilis are discussed in the seventh chapter. Local diseases, gonorrhœa, etc., are discussed in the eighth chapter. The book is well written, and while it displays much enthusiasm for the germ theory, fairly presents the views of its opponents. It is very well issued by the publisher.

MATERIA MEDICA FOR PHYSICIANS AND STUDENTS. By J. B. BIDDLE, M.D., late Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, Philadelphia. Ninth Edition, Revised, Rewritten, and Enlarged in accordance with the Sixth Revision of the U. S. Pharmacopœia, by CLEMENT BIDDLE, U. S. N. With numerous Illustrations. Philadelphia: P. Blakiston, Son & Co. 8vo. 1883. Cloth. Price, $4.

It is about as superfluous to recommend this work to the American physician as it is to recommend the Bible to the Christian. It is an old familiar, well-known, prized, and always useful. The son of the author has done very excellent work upon this edition, and has added much to its value. When such a work can be said to be good, reliable, always practical, clearly written, concise in style and diction, convenient in size, bought for a small outlay, nothing more can be wanted; and all of this can be said of this well-known, well-prepared, and well-issued volume.

STUDENT'S GUIDE TO DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S., etc., etc. Second American from the second revised and enlarged English edition, with a chapter on Examination for Color Perception, by WILLIAM THOMSON, M.D., etc. Philadelphia: Henry C. Lea's Son & Co. 1883. 416 pages.

This work has undergone a very thorough revision, and is greatly improved; the size of the work is also increased. The American author has added a valuable chapter on the method of testing the vision of railroad employés, their relative degrees of color blindness, and their auditory capacity. The work does not pretend to be more than a manual, but as such it is one of the best.

GOUT IN ITS PROTEAN ASPECTS. By J. MILNER FOTHERGILL, M.D. Detroit, Mich.: George S. Davis. Cloth-bound, 16mo, embossed. 300 pages, heavy paper. Price, $2.50.

After all that has been said and written, the pathology of gout is as yet unknown. When the poorest diet and the richest produce the disease with almost the same symptoms, the etiology—Scudamore, Mitchell, Prout, Williams, Graves, Todd, Fuller etc., to the contrary—is fearfully obscure. As to the treatment, physicians would despair if deprived of colchicum and iodide of potassium, and yet if called upon to say why they give these, how many would like to answer, or could give an answer satisfactory to any one? It is empirical treatment always and by all, and if it were not for *the ledger*, few would care to treat this disease.

The author is always "up to the times;" he is fluent always, writes easily, lucidly and interestingly, carries one over the dull and the doubtful in pathology with masterly ease, and actually makes the reader believe that the writer and himself know something about the subject. It is a clever work, modern, and as good as any. It is beautifully issued.

THE DISEASES OF WOMEN. A Manual for Physicians and Students. By HEINRICH FRITSCH, M.D. Translated by ISIDOR FURST. With one hundred and fifty-nine wood engravings. New York: William Wood & Co., 1883.

This is the March issue of Wood's Library for 1883. It is a German work, and as such will not be as acceptable as an American issue, for, after all, the gynæcologists of this country are the best; they are the parents of this science, with Marion Sims as the parent of them all. They are unsurpassed in knowledge, experience, operative skill, common-sense or judgment, and are well known and fully reliable.

This work is at best but a good manual, though it is fully deserving of the position which the publishers have accorded to it. It is very well issued, and the illustrations are fairly good. It cannot be said, however, to add anything to the literary wants or operative resources of the gynæcologist.

LABOR AMONG PRIMITIVE PEOPLES, SHOWING THE DEVELOPMENT OF THE OBSTETRIC SCIENCE OF TO-DAY FROM THE NATURAL AND INSTINCTIVE CUSTOMS OF ALL RACES, PAST AND PRESENT. By GEO. J. ENGELMANN, A.M., M.D., Professor of Obstetrics in the Post-Graduate School of the Missouri Medical College; Master in Obstetrics of the University of Vienna; Fellow of the American Gynæcological Society; of the London Pathological Society; of the Obstetric Society of London; Consulting Surgeon to the St. Louis French Hospital; St. Ann's Lying-in Asylum; Mexico Hospital, etc. Second Edition. Revised, Enlarged, and Re-arranged. Fifty-nine illustrations. St. Louis: J. H. Chambers & Co., 1883.

It is not quite a year ago, that a long and careful review of this work was published in this journal; the second edition has been on "the editor's table," for several weeks. What more can be said of it? That it differs from all works of its kind, every one must admit. It carries the reader into entirely new fields of study, descriptive, and research. The erudition displayed is, as Dominie Sampson would remark, "prodigious," rare, admirable, unique, and delightful. The literary traveller is taken out of the old ruts, and is carried over roads and routes that are charming, fascinating, and never failing to give the fullest reward. The book is full of novel facts, of information not to be had elsewhere. It is strictly original, instructive, and profitable. The diction is excellent, and the work is a positive and charming addition to medical literature. It is well and profusely illustrated.

AN INDEX OF THE PRACTICE OF MEDICINE. By WESLEY M. CARPENTER, M.D., Assistant Pathologist to Bellevue Hospital; Instructor in the Pathological Laboratory of the University of the City of New York; Secretary of the Medical Society of the County of New York; Secretary of the New York Pathological Society; Fellow of the N. Y. Academy of Medicine, etc. New York: Wm. Wood & Co., 1883.

This is another "pocket-book." It is bound especially for that purpose and in its handsome red morocco covering and gilt-edged leaves would readily be mistaken for the plethoric wallet of Jay Gould, W. H. Vanderbilt, or any other of that class of worthies who are supposed to require such capacious receptacles for accommodating the supplies needed for the day. In appearance the pocket-book is very handsome and inviting.

When examined, it is found, however, to be, like all of the works of its class, a compilation from various sources of the information necessary to make up a small volume. It is true that this compilation evinces excellent judgment, and that, as a result, it is a *multum in parvo*, or an *e pluribus unum*, or whatever other name the reader may prefer to show the character of the work, but the fact still remains, that the book is nothing but a compilation from many works which most physicians already possess, as the author very justly acknowledges. It has apparently no *raison d'être*, and almost every one would prefer to drink from the fountain head rather than to lap up the small pools which have been diverted from the parent stream. To those who value such productions, it may be justly said that this little book is the equal of the best of its kind, and that no one could evince more skill and judgment than the author has displayed in its preparation.

BOOKS AND PAMPHLETS RECEIVED.

Observations on Lithotomy, Lithotrity, and the Early Detection of Stone in the Bladder. With a Description of a new method of Tapping the Bladder. By Reginald Harrison, F.R.C.S. London. J. & A. Churchill. 1883.

A Practical Treatise on Impotence, Sterility, and allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College of Philadelphia. Second edition, thoroughly revised. Philadelphia. Henry C. Lea's Son & Co. 1883.

Students' Guide to Diseases of the Eye. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon to St. Thomas's Hospital, etc. Second American from the second revised and enlarged English edition. With a chapter on Examination for Color Perception. By Wm. Thomson, M.D., Professor of Ophthalmology in Jefferson Medical College. Philadelphia. Henry C. Lea's Son & Co. 1883.

Manual of Auscultation and Percussion, embracing the Physical Diagnosis of Diseases of the Lungs and Heart, and of Thoracic Aneurism. By Austin Flint, M.D., Professor of Principles and Practice of Medicine in the Bellevue Hospital Medical College. Third edition, revised. Philadelphia. Henry C. Lea's Son & Co. 1883.

Hand-book of Diagnosis and Treatment of Diseases of the Throat, Nose, and Naso-Pharynx. By Carl Seiler, M.D., Lecturer on Laryngoscopy at the University of Pennsylvania, etc. Second edition, thoroughly revised and enlarged. With seventy-seven illustrations. Philadelphia. Henry C. Lea's Son & Co. 1883.

Proposed Ordinance and Rules and Regulations for regulating the Plumbing, House Drainage, Registration, and Licensing of Plumbers in the city of Philadelphia As reported by the Committee of twenty-one. Philadelphia. P. Blakiston, Son & Co. 1883.

Manual of Practical Hygiene. By Edmund A. Parkes, M.D., F.R.S., Professor of Military Hygiene in the Army Medical School, London, etc. Edited by P. S. B. François de Chaumont, M.D., F.R.S., etc. Sixth edition. Philadelphia. P. Blakiston, Son & Co. 1883.

Practitioner's Ready Reference Book. By Richard J. Dunglison, A.M., M.D., etc. Third edition. Philadelphia. P. Blakiston, Son & Co. 1883.

The Dispensatory of the United States of America. By Dr. Geo. B. Wood and Dr. Franklin Bache. Fifteenth edition. By H. C. Wood, M.D., Joseph P. Remington, Ph.G., and Samuel P. Sadtler, Ph.G. Philadelphia. J. B. Lippincott & Co. 1883.

Lectures on Orthopedic Surgery and Diseases of the Joints. By Lewis A. Sayre, M.D., Professor of Orthopedic Surgery and Clinical Surgery in Bellevue Hospital Medical College, etc. Second edition. New York. D. Appleton & Co. 1883.

A Treatise on Therapeutics, comprising Materia Medica and Toxicology. By H. C. Wood, M.D., Prof. of Materia Medica and Therapeutics in the

University of Pa. Fifth edition, revised and enlarged. Philadelphia. J. B. Lippincott & Co. 1883.

Diseases of the Ovaries. By Lawson Tait, F.R.C.S. Fourth edition. New York. Wm. Wood & Co. 1883.

Manual of Gynæcology. By D. Berry Hart, M.D., and A. H. Barbour, M.D. Two vols. New York. Wm. Wood & Co. 1883.

Diagnosis of Ovarian Cysts. By Henry Jacques Garrigues, M.D. New York. Wm. Wood & Co. 1883.

Index of the Practice of Medicine. By Wesley M. Carpenter, M.D. New York. Wm. Wood & Co. 1883.

Diseases of Women. A Manual for Physicians and Students. By Heinrich Fritsch, M.D., Professor of Gynæcology in the University of Halle. Translated by Isidor Furst. New York. Wm. Wood & Co. 1883.

The Microscope and its Revelations. By William B. Carpenter, C.B., M.D., LL.D., F.R.S., etc. Sixth edition. Two vols. New York. Wm. Wood & Co. 1883.

Brain Rest. By J. Leonard Corning, M.D. New York. G. P. Putnam's Sons. 1883.

Medical Essays. 1842–1882. By Oliver Wendell Holmes. Boston. Houghton, Mifflin & Co. 1883.

Labor among Primitive Peoples. Showing the Development of the Obstetric Science of to-day, from the natural and instinctive customs of all Races. By George J. Engelmann, A.M., M.D., Professor of Obstetrics in the Post-Graduate School of the Missouri Medical College, etc. Second edition. St. Louis. J. H. Chambers & Co. 1883.

Bacteria or the Germ Theory of Disease. By Dr. H. Gradle, Prof. of Physiology, Chicago Medical College. Chicago. W. T. Keener. 1883.

On the Relations of Micro-Organisms to Disease. By Wm. T. Belfield, M.D., Lecturer on Pathology, etc., Rush Medical College, Chicago. Chicago. W. T. Keener. 1883.

The Medical and Surgical History of the War of the Rebellion. Part III. Volume II. Surgical History. Prepared under the direction of Joseph K. Barnes, Surgeon-General U.S.A. By George A. Otis, Surgeon U. S. A. Washington. 1883.

The Gout in its Protean Aspects. By J. Milner Fothergill, M.D., M.R.C.P. Detroit. George S. Davis. 1883.

Heart Puncture and Heart Suture as Therapeutic Procedures. By John B. Roberts, M.D., of Philadelphia.

The Clinical History and exact Localization of Perinephric Abscess. By John B. Roberts, M.D., of Philadelphia.

The Rational Treatment of Spasmodic Asthma. By Richard B. Faulkner, M.D.

Tubercular Cerebro-Spinal Meningitis. By J. T. Eskridge, M.D., Physician to St. Mary's and Jefferson College Hospitals.

Observations on a Series of Fifteen Successful Cases of Ovariotomy. By O. O. Burgess, M.D.

Symptoms and Diagnosis of Malaria in Children. By L. Emmet Holt, A.M., M.D.

Alcohol; as a Food, a Medicine, a Poison, and as a Luxury. By Geo. C. Pitzer, M.D. St. Louis. 1883.

Cancer of the Intestinal Tract: Operations for the removal of Malignant Strictures of Pylorus and Intestines. Together with a brief review of the Historical Development of Modern Abdominal Surgery. By Reuben A. Vance, M.D., etc., Cleveland, Ohio.

One hundred cases of Antiseptic Ovariotomy. By John Homans, M.D., Boston, 1883.

The New Orleans Auxiliary Sanitary Association. Publication of Information concerning Small-pox and Vaccination, for the benefit of the Public, written at the request of the Association. By Prof. Stanford E. Chaillé, M.D. New Orleans. June, 1883.

Trichinæ ; their Microscopy, Development, Death, and the Diagnosis and Treatment of Trichinosis. By W. C. W. Glazier, M.D., Assist. Surg. Marine Hosp. Service. Detroit, Michigan. 1883.

Small-pox and Small-pox Hospital of New Orleans. New Orleans. 1883.

Case of Double Hydronephrosis with Dilatation of the Bladder and Ureters, due to Disease of the Prostate Gland. By D. Webster Prentiss, A.M., M.D.

The Bacteria. By T. J. Burrill, Ph. D., Professor of Botany in Illinois University. Springfield. 1882.

The Opium Habit. Its Successful Treatment by the Avena Sativa. By E. H. M. Sell, M.D., A.M., etc. 1883.

The Pathology and Morbid Anatomy of Tubercle. By N. Senn, M.D. Milwaukee. 1883.

Transactions of the American Medical Association. Vol. 23. Philadelphia. 1882.

Transactions of the Medical Association of Georgia. Augusta. 1883.

Transactions of the State Medical Society of Wisconsin, 1882. Milwaukee. 1883.

Proceedings of the Medical Society of the County of Kings. April to June, 1883.

Proceedings of the Naval Medical Society. Vol I. Nos. 2, 3, 4. Washington. 1883.

Proceedings of the American Pharmaceutical Association, 1882. Philadelphia. 1883.

Proceedings of the Connecticut Medical Society, 1882. Hartford, Conn.

Annual Report of the Retreat for the Insane at Hartford, Conn. April, 1883.

Report of the State Asylum for the Relief of Persons Deprived of their Reason. 1883.

Annual Report of the State Asylum for Insane Criminals. Auburn, N. Y. 1883.

Report of the State Lunatic Asylum at Utica, for 1882. Albany. 1883.

Report of the Burlington County Hospital, for 1882.

Report of the State Board of Health of New Jersey, for 1882.

Fourth Annual Report. Board of Health, City of Memphis, 1882. By G. B. Thornton, M.D., President.

Report of investigation of the Central Kentucky Lunatic Asylum. Sept., 1882.

Report of Pennsylvania Training School for Feeble-Minded Children, 1882.

Report of the Trustees of the Massachusetts General Hospital, 1882. Boston.

Communicable Diseases in Michigan during the year ending September 30th, 1882, and Work of Boards of Health restricting the same Lansing. 1883.

Most of the college catalogues so far issued in 1883.

PHARMACY AND THERAPEUTICS.

New Remedy for Syphilis.—Prof. Liebreich brought forward, at the last meeting but one of the Berlin Medical Society, a new drug for the treatment of syphilis by the subcutaneous method. This drug rejoices in the name of hydrargyrum formidatum, and is, therefore, merely a different form of the old cure for syphilis. The mode of its preparation was not stated; chemically, it belongs to the amide group, in whose structure the monovalent amidogen (NH_2) plays an important part. Liebreich was led to think of this new preparation from the notion that the ordinary amides of the body, of which urea may be regarded as the principal one, pass out of the organism in an undecomposed state; when, however, an amide is in combination with a metal, decomposition readily occurs, and the metal is reduced and deposited. Liebreich repeated his experiments before the Society, and showed that these conjectures were quite true for the metal mercury. It is supposed, therefore, that the formamide of mercury, after the hypodermic injection, undergoes disintegration; and so the mercury is set free, and is able to exert its well-known power over the lesions of syphilis. The preparation is easily soluble in water, is of neutral reaction, does not coagulate albumen, is not precipitated by caustic soda, and the presence of mercury can be demonstrated by means of sulphide of potassium. The drug, when injected under the skin, produces its effects very surely and rapidly. This is not regarded as a disadvantage, for the medicine is said to be easily borne, and has never produced salivation in Liebreich's hands. There is very little pain attendant on the injection, which has never excited any inflammation. From a half to a whole of a Pravaz syringeful (a one-per-cent watery solution) may be injected twice or thrice daily. Liebreich looks on the preparation as the best we yet have for subcutaneous injection.

Stability of Calomel.—Woellmer has examined powders and pills, kept for a period of thirty months, in the dark, in diffused daylight, in dry and in a damp atmosphere. The calomel was combined with sugar, both pure and whitened with ultramarine, with milksugar, gum arabic, aloes, liquorice root, and marshmallow root. Neither the formation of corrosive sublimate nor of ammonio chloride of mercury could be observed. For the solution of the former, sulphuretted hydrogen was employed as the chief test. The absence of ammoniated mercury was proven by treating the insoluble portion with dilute nitric acid, and testing the filtrate with silver nitrate. Decomposition was likewise not observed in a mixture of golden sulphuret of antimony, calomel, and sugar.

Treatment of Scabies by Naphthol.—1. That naphthol is a parasiticide is abundantly proved by its employment against scabies and phthiriasis in man and *l'acarisse auriculaire* among dogs.

2. Naphthol-ointment, as prescribed by Professor Hardy, is applicable at any of the stages of scabies, whether simple or complicated.

3. The same remedy is rapidly efficacious against the prurigo of scabies, without producing the smarting sensation which generally follows the use of Helmerich's ointment.

4. Naphthol-ointment is also of service against those eruptive sequelæ of scabies in which Helmerich's ointment is usually contraindicated.

5. The average duration of the naphthol treatment of scabies is from ten to fifteen days.

6. The employment of M. Hardy's preparation has occasioned no bad results whatever, either as respects the skin or the internal organs, especially the kidneys.

Naphthol-ointment possesses, moreover, some accessory advantages; its odor is agreeable, and it does no harm to underclothing or bandages.

USEFUL AND CONVENIENT MIXTURES.

Chloroform Cough Mixture.

℞	Morphiæ acet.	gr. iij.
	Tr. belladonnæ	ʒ iv.
	Spts. chloroformi	ʒ vj.
	Syr. senegæ	℥ j.
	Syr. pruni virg ad	℥ iv.

Dose, a teaspoonful.

Hydrocyanic Mixture.

℞.	Potassii cyanidi	gr. ij.
	Syrupi tolut.,	
	Liq. morph. sulph. U.S.P aa.	℥ j.

Dose, a teaspoonful.

Ward Cough Mixture.

℞.	Fld. ext. pruni virg	℥ iij.
	Sol. potassii cyanidi	gr. viij.
	Sol. morphiæ Magendie	℥ ss.
	Syr. Simplicis	℥ x.
	Aquæ	℥ xviij.

Dose, a teaspoonful p. r. n.

Emulsion of Cod-liver Oil with Solution of Saccharated Lime.

(75 per cent emulsion)

℞.	Ol. morrhuæ	℥ vj.
	Ol. anisi	ʒ ss.
	Ol. sassafras	gtt. x.
	Liquor. calc. sacchar	℥ ij.

M.

Not compatible with acids.

Chlorate of Potassa Mixture.

℞.	Ammon. muriat.,	
	Potass, chlorat aa	ʒ j.
	Ext. glycyrrh	ʒ ss.
	Aquæ cinnam ad	℥ iv.

Dose, a tablespoonful.

Mixture of Iodide of Potassium and Hoffman's Anodyne.

℞.	Potass. iodid	ʒ iij.
	Spts. ether. co	℥ j.
	Syr. pruni virg	℥ iij.

M. Dose, a teaspoonful.

Cough Mixture.

℞.	Ether. Sulph	ʒ iij.
	Tinct. hyoscyam.,	
	Syr. pruni virg.,	
	Syr. tolutan aa	℥ j.
	Aquæ ad	℥ iv.

Dose, two to four drachms.

Anti-Rheumatic Mixture.

(Mistura Antiarthritica.)

℞.	Potassii iodidi	ʒ v.
	Vini colchici sem	℥ j.
	Tr. cimicifugæ rac	℥ ij
	Tr. stramon	℥ ss.
	Tr. opii camp	℥ jss.

Dose, ʒ i. three times a day.

Ergot, Subcutaneous Injection of.—In reference to the subcutaneous injection of *ergot*, the preparation which has been found most useful here is one prepared after Professor Simpson's recommendation:

℞ Ergotinæ (Bonjean's)	ʒ ij,
Aquæ	ʒ vj,
Chloral Hydratis	ʒ ss. M.

This makes a solution, 20 minims of which contain 5 grains of ergotine, and 20 minims is a good dose for injection. The chloral keeps the solution for some weeks, but after this lapse of time it becomes unreliable. It is, however, preferable to glycerine, etc., as glycerine causes more pain after injection, and is doubtfully as good a preservative. The needle should be entered at least an inch and a half directly into the buttock, about midway between the great trochanter and the tuber ischii. It ought to be rapidly entered, slowly emptied, and quickly withdrawn. Here it is given in almost every case directly after expulsion of the placenta; and those cases which do not have it suffer more from after-pains, and have the lochia rubra longer persistent. I have never seen any local effect from the injection, the pain is trifling, and the action speedy.—G. Armstrong Atkinson, M.B., C.M., House-Surgeon, Edinburgh Royal Infirmary, *in the British Medical Journal.*

CHRONIC PULMONARY AFFECTIONS—*Iodoform.*—Professor Semmola (*Giornale Internaz. delle Scienze Med.*, An. iv., Fasc. 7 and 8) was the first to make known that *iodoform*, administered by the mouth, is in part eliminated unchanged by the lungs. Its probable topical action during elimination led him to employ it in lung disease. He and many other good Italian authorities speak most favorably of its action, especially in caseous broncho-alveolitis, chronic pneumonia, and bronchial catarrh, bronchiectasis, etc. In phthsis, the expectoration often diminishes rapidly and considerably, the cough is lessened, and the violent paroxysms disappear. The products existing in the bronchi, or in a more advanced stage in the foci of softening and caverns, are disinfected. The fever progressively diminishes, and he thinks that this diminution is in great part due to the local antiseptic action of the remedy, and to the diminution of putrid matter, which, becoming absorbed from the breaking up lung-tissue, represents one of the gravest consequences of the morbid process. The general health evidently improves, and cases in the first stage of caseous broncho-alveolitis may probably recover. The dose is from one-eighth of a grain to six or seven grains a day, and must be determined by the tolerence of the remedy by the digestive organs and the nervous system. It is best given in the form of a pill, with extract of gentian or other extract. He prefers to give it in small doses every hour, or every two hours. If it be not well tolerated by the stomach, it may be given in inhalation, dissolved in oil of turpentine, and administered three or four times a day.—*The London Medical Record.*

TAMAR INDIEN.—*L'Union Pharmaceutique* publishes the following formulæ for its preparation: Mix pulp of tamarinds 450 gm., powdered sugar 40 gm., powdered milk sugar 60 gm., glycerine 50 gm., evaporate to the consistence of a soft extract and add powdered senna 50 gm., powdered anise 10 gm., oil of lemon 3 gm., tartaric acid 3 gm.; form this mixture into 100 boluses, and after exposing these to the vapors of water roll them in a powder composed of cream of tartar 5 gm., sugar and milk sugar each 35 gm., tragacanth 3 gm., tartaric acid 2 gm., and red saunders 25 gm. Dry and wrap in tinfoil.—*Jour. Phar. d'Als.-Lorr.*, 1883, p. 93.

CLEANING OF SPONGES.—For removing the greasiness of toilet sponges that have been in use for some time, M. v. Valta recommends the following: The sponge is first washed with water as well as possible, then placed upon a plate, a little powdered *calcium chloride* being sprinkled over it and allowed to liquefy; after about 30 minutes it may be washed with water and dried, when it will have an appearance like a new sponge. —*Phar. Zeitung.*

MALARIAL FEVERS—*New Remedy in.*—The new remedy (*Gior. di Clinica e Terapia*, March, 1883) is simply *decoction of lemons.* Dr. Maglieri has obtained quite as good results as with quinine. He finds it efficacious in acute and chronic malarial affections. Given four hours before the onset of fever, it averts the paroxysm. This it did even in cases in which quinine had failed. In malarial cachexia the general health improved, and the liver and spleen were much reduced in size.—*The London Medical Record.*

CHANCRES.—*Pyrogallic Acid.*—The employment of *pyrogallic acid* as an application to chancres has been advocated by M. Vidal. Its poisonous influence precludes its internal administration, but it is not absorbed, according to Haussmann, when in contact with the subcutaneous cellular tissue. M. Vidal does not entirely share this opinion, since perchloride of iron shows the presence of pyrogallic acid in the urine when it is applied externally. In the treatment of the phagedænic chancre, Vidal employs an ointment of one or two parts of the acid to eight of vaseline, or a powder with starch in the same proportion. The phagedænic character of the chancre is said to be rapidly arrested, even more effectually than by the application of the actual cautery. The application should be renewed night and morning. The wound assumes a blackish aspect, but all virulence disappears after the third day. As soon as free granulation has been established, the applications may be discontinued. M. Vidal employs also the powder of subcarbonate of iron, and prefers it to iodoform.—*Lancet.*

TUBERCULOSIS SURGICALLY TREATED.—Dr. Thudichum, who had attended the recent German Medical Congress at Wiesbaden, stated that a clinical professor from Berlin gave an interesting account of the result in forty cases of the treatment of tuberculosis with *bichloride of mercury* by means of the syringe ; but although benefit was said to have been derived by some of the patients, he regarded phthisis as being left where it was. In some of the German hospitals he found that tubercular disease of the lungs was being treated surgically. A rib was excised, and, with every antiseptic precaution, the diseased portion removed. Patients so treated had recovered in some cases.—*British Medical Journal, June 9th,* 1883.

BALDNESS.—*Eucalyptus.*—A Californian physician claims that the juice from *eucalyptus leaves* has induced the hair to grow on his bald head. He was in the habit of pounding to a pulp the leaves, which he applied to his head for the cure of headache, and was surprised to find a new and abundant crop of hair commence to grow.—*Druggist.*

QUININE, THE OXYTOCIC ACTION OF.—In the *British Medical Journal* of February 24th, Dr. McLeod, of Shanghai, calls attention to the "problematic oxytocic action of *quinine.*" In three different cases I have had on several occasions to discontinue the use of quinine, because it brought on "labor-pains," though the doses used were small, varying from three to five grains. In one of these, during a previous pregnancy, another medical man used quinine, and discontinued it for a similar reason. All three were in fair general health, suffering only from slight malarious fever, and had never aborted. One case has come under my notice in which abortion took place, without apparent cause, after a ten-grain dose of quinine. The patient was the mother of several children, had not previously aborted, was in good health, and took the quinine to cure facial neuraliga. I know of another case of abortion occurring under similar circumstances after quinine. This action of the drug is known to the

Chinese, who take it (I am told with success) for the purpose of producing abortion, following its use by copious draughts of hot tea. I have myself heard a Chinese "amah" (*i.e.*, female servant) recommend it. Quinine certainly, in some cases, increases the menstrual flow.—*William Hartigan, M.K.Q.C.P., Hong Kong.*

CHOREA— *Succus Conii.*—At the Leeds General Infirmary, three cases, under the care of Drs. Clifford Allbutt, Eddison, and Churton, were treated with half-ounce doses of *succus conii* after other sedatives had been tried, and after detailing the success of their treatment the following remarks are appended: These are good examples of the class of cases occasionally met with, in which the choreic movements become so violent as to endanger life. Their chief interest, however, centres upon the use of succus conii; these cases seem to show: (1.) That the drug, to be of any service, must be given in large doses. (2.) That its action must be sustained by frequent repetitions of the dose at short intervals. The uncertainty of the action of given specimens of succus conii necessitates great care in its administration. and militates against its general adoption. But cases in which neither chloral nor morphine have any effect may arise, and in which, as in the above, succus conii may prove efficacious.—*Lancet.*

CANCRUM ORIS—*Subnitrate of Bismuth.*—Dr. C. J. Macguire, New York, states (*New York Medical Record*, February 3d, 1883) he has had under his personal care twenty-four cases, and of those lost four, and lost those four previous to the bismuth treatment. Of the twenty successful cases, those showing most clearly the traces and characteristics of true cancrum oris are still in the institution. The treatment consisted of thoroughly cleansing the mouth by disinfectants and general stimulant medicine with generous diet, covering the ulcerated parts with *subnitrate of bismuth.* The disease yielded promptly to the "bismuth treatment," and the ulcers were all thoroughly healed in from two to four weeks. Concerning some of the cases, it is only necessary to say that they occurred during the months of July and August, and that the bismuth treatment effectually controlled the disease. He adds, "in all the foregoing, I have confined myself to bare facts, daily notes, simple and uncolored, of successful and unsuccessful cases. I do not claim to be able to submit a theory which can scientifically account for the marvellously fortunate results of the line of treatment I adopted; nor do I know to which of the component parts of the drug, used with such happy effect, is due the credit."

NOTES ON HYOSCYAMINE. By Kenneth W. Millican, B.A., L.R.C.P.—Hyoscyamine is a drug which apparently possesses very valuable therapeutic properties, and like many other of the alkaloids requires only to be known to be appreciated. The first case in which I employed it was one of hepatic colic. Feeling convinced from its combined anodyne and antispasmodic properties that good results might be anticipated from its administration, I prescribed it in doses of $\frac{1}{120}$ gr. every half hour until relief was obtained. The patient, a woman who had several times previously passed gall-stones, was greatly relieved after three doses, and the administration was kept up at intervals of an hour until after the spasm ceased. I have several times used it in abdominal colic, in the same doses frequently repeated, and on all occasions with the best results; and it has also proved the most effectual remedy in relieving the painful distress of spasmodic asthma. Indeed, in this latter complaint, my patient, a long-standing martyr to the affection, admits that it has given him more ease than any other drug he has taken, and has completely displaced chlorodyne in his estimation. But, perhaps, the most valuable case of its successful administration is the most recent of all. The patient was a young woman from service who, when I first saw her, was in the most intense abdominal pain. There was considerable diffused peritonitis, and for some time the cause was uncertain. I was at first disposed to suspect, from the history, a pyæmic origin, but ultimately concluded that the peritonitis resulted from collections of fæces at the hepatic and splenic flexures of the colon. Morphia was administered both subcutaneously and by the mouth, and attempts were made to clear the bowels by bland enemata, but all to no avail. Having pushed the morphia as far as I dared, I was obliged to withhold its further administration, for though the pupil gave indications of its action, the pain did not seem to be in the least abated by it. After some time I determined to employ hyoscyamine, which I did in doses of one-fortieth of a grain every two hours. At first it seemed slightly to increase the pain, but shortly after its physiological action upon the fauces and pupil became manifest the pain began gradually to subside, and a fairly fluid evacuation of the bowels ensued. From that time the patient began to mend, and is now progressing fairly well. When I first used hyoscyamine I employed the granules manufactured by M. Chanteaud, the eminent French pharmacien. But recently I have used a solution of the alkaloid (Merck's crystallized) in rectified spirits of wine, of the strength of one grain in two drachms. One minim of this solution thus contains $\frac{1}{120}$ grain of the drug, which can either be administered in a mixture with a little dill water, or may be used to form lozenges with sugar of milk.—KINETON, WARWICKSHIRE.

MENORRHAGIA, CANNABIS INDICA, A VALUABLE REMEDY IN.—My experience of *Indian hemp* confirms Mr. Oliver's in some particulars, especially its physiological action. In no case has it produced pleasurable feelings, generally most alarming symptoms, such as complete paralysis, horrible hallucinations, double consciousness, etc. A young practitioner should be most careful in prescribing, and warn patients of its action, or he may lose their confidence. Indian hemp has been vaunted as an anodyne and hypnotic having the good qualities of opium without its evils. Also in dysmenorrhœa. In this complaint and insomnia it has not proved of much benefit. The drug has almost invariably produced some marked physiological effect even in small doses. Text books give the dose as ten minims and upward, but five mimims is the largest dose that should be given at first. If bought from a good house, the drug is not inert or unreliable. A drug having such marked physiological action ought to have a specific use as a therapeutic agent. Indian hemp has such specific use in menorrhagia—there is no medicine which has given such good results; for this reason, it ought to take the first place as a remedy in menorrhagia, then bromide of potassium, and other drugs. The *modus operandi* I cannot explain, unless it be that it diverts a larger proportion of blood to the brain, and lessens the muscular force of the heart. A few doses are sufficient; the following is the prescription:

℞	Tincturæ Cannabis Indicæ	♏xxx.
	Pulveris Tragac. Co	ʒi.
	Spiritus Chlorof	ʒi.
	Aquam ad	℥ij.

One ounce every three hours. Four years ago I was called to see Mrs.

W., aged 40, multipara. She had suffered from menorrhagia for several months. Her medical attendant had tried the ordinary remedies without success. Indian hemp was given as above. Its action was speedy and certain. Only one bottle was taken. She was afterward treated for anæmia, due to loss of blood. Twelve months after this my patient sent for a bottle of the "green medicine." I learned afterward that she had sent this medicine to a lady friend, who had been unsuccessfully treated by another medical man for several months for the same complaint. It proved equally successful. The failures are so few, that I venture to call it a specific in menorrhagia. The drug deserves a trial. It may occasionally fail; this, however, is not to be wondered at in a complaint due to so many different causes, and associated with anæmia and other cases of plethora.—John Brown, L.R.C.P., Lond., etc., Bacup, *in the British Medical Journal.*

Constipation, Habitual, Three Prescriptions for.—J. Mortimer Granville, M.D., M.R.C.P., in the *British Medical Journal*, May 26th, 1883, says: Some apology may appear necessary for these "prescriptions," more particularly as it is likely that some of my readers will think I am scattering suggestions on subjects which do not, at first sight, seem to be at all closely related. Still preserving what may be called the "nervous" standpoint, it is, I am convinced, indispensable to regard persistent inactivity of the bowels, when not demonstrably due to other causes, as the result of, either defect of peristaltic action; deficient glandular secretion; or, interruption of the habit of periodic evacuation.

1. When there is a lax and torpid condition of the muscular coat of the alimentary canal, we get food retained in the stomach or intestines until it ferments, or sometimes "decomposes," with the result of distension, pain mechanically induced, and either eructations or incarcerated flatus. I have recently seen a very considerable number of cases in which this last-mentioned trouble had been so great, and at the same time so masked, as to have given rise to the impression that grave disease existed; whereas every anomalous symptom has quickly disappeared as soon as the muscular tone has been restored, and the contents of the bowel have commenced to pass naturally on their course. The essential fault is partial, in some instances almost complete, loss of the reflex contractility of the muscular coat, so that the presence of ingesta at any part of the canal does not excite the intestine to contract and propel it onward. It is worse than useless to employ ordinary aperients in such a condition as this; they only irritate, without strengthening, the nerves, on the healthy activity of which everything depends. When, therefore, this is the form of "constipation" which requires treatment, I give a prescription something like the following; and it is, in the majority of instances—of course nothing is uniformly—successful:

℞	Sodæ Valerianatis	gr. xxxvj.
	Tincturæ Nucis Vomicæ	♏ lx.
	" Capsici	♏ xlviij.
	Syrupi Aurantii	℥ iss.
	Aquâ ad	℥ vj.

Misce. Fiat mistura, cujus sumantur cochleare magnum ex aquâ ter die semihorâ ante cibum.

2. The second form of constipation, in which there is a deficiency of glandular secretions generally throughout the intestine, manifested by a pe-

culiarly dry and earthy character of the dejecta when the bowels do act, I treat by a mixture such as this :

℞	Aluminis	ʒ iij.
	Tincturæ Quassiæ	℥ i.
	Infusi Quassiæ	℥ vij.

Misce. Fiat mistura, cujus sumantur cochlearia duo magna ter quotidie, post cibum.

3. The third form, which depends chiefly on interruption of the natural habit of periodic discharge, often results from repeated failure to move the bowels, in consequence of one or other of the two preceding forms of this trouble. This may generally be relieved by directing a perfectly regular attempt to go to stool, and by the use of the following draught, taken the first thing after rising from bed—not on awaking—in the morning, as nearly as possible at the same hour. It will be observed that it is not an aperient in the ordinary sense of the term. It is, as a rule, neither necessary nor desirable to continue it for longer than a fortnight. In most instances, it will be found to re-establish the normal habit in a week or less :

℞	Ammoniæ Carbonatis	ʒ i.
	Tincturæ Valerianæ	℥ i.
	Aquæ Camphoræ	℥ v.

Misce. Fiat mistura : capiat partem sextam in modo dicto.

Dialyzed Iron.—Dr. Prosser James has lately said, in a summary of the position which dialyzed iron is entitled to hold in medicine, that the persalts of iron are frequently employed solely on account of their astringency, while the protosalts are occasionally considered as being destitute of this quality. The freshly-prepared carbonate is an excellent mild chalybeate, but difficult to keep in an unaltered state, so that preference is given to reduced iron. The scale preparations of iron are held in repute, both from the extreme facility of their use and their agreeable taste. When these three forms of iron are inadmissible, dialyzed iron may be resorted to with admirable effect. It is a milder chalybeate than the three preceding, and does not produce the slightest irritation.

A recent analysis by Professor Tichborne of Wyeth's preparation agrees almost exactly with Graham's statement, that dialyzed iron contains 98.5 parts of the oxide and 1.5 parts of hydrochloric acid. The liquid thus obtained differs altogether from an ordinary solution of salts of iron, by its not giving rise to the blood-red color on the addition of alkaline sulphocyanide, nor to the blue precipitate with ferrocyanide of potassium. It does not become cloudy on boiling, nor when agitated with two parts of ether and one part of alcohol is the ether layer colored yellow. It is so sensitive that ordinary spring water will cause a precipitate, yet no precipitate is produced by nitric, acetic, or muriatic acid. Graham's solution gelatinized in about twenty days, and he regarded it as a solution of colloid ferric hydrate which, he considered, existed in both a soluble and insoluble form. It is, however, never free from chlorine. Theoretically, therefore, the liquid is a solution of a basic oxychloride, but it can never be imitated by dissolving saturated solutions of the hydrate. All these artificially-made liquors are astringent, with ferruginous taste and acid reaction.

Respecting the therapeutic value of dialyzed iron, of which there has lately been some inclination to doubt, Dr. James says there is no question. By the method now followed of counting blood-corpuscles, it is found that the taking of dialyzed iron both increases their number and improves their condition. Dr. James gives, as an average dose, twenty to fifty drops, daily, in three doses. Dr. Weir Mitchell, of Philadelphia, gives as much as a drachm at a time.

Specimens have appeared in the market which are not only innocent of any acquaintance with a dialyzing membrane, but seem little else than diluted solution of perchloride of iron.—*From the London Chemist and Druggist.*

MISCELLANEOUS.

Nitrate of Amyl and Nitro-Glycerine in Uræmic Asthma.—Dr. Sheen, of Cardiff, writes: "The brief notes I give below illustrate the value of nitrate of amyl and nitro-glycerine in one of the sudden and distressing, though perhaps rare, phases of chronic Bright's disease—viz., uræmic asthma. Nitrate of amyl, acting, probably, through the vaso-motor nerves, relaxes the arterioles, and thus reduces blood pressure. As it is very volatile, on the score of economy and convenience, I always carry some of Martindale's capsules in my bag, and these are very handy for immediate use. Nitro-glycerine is said to have much the same action as nitrate of amyl, and according to Dr. Mahomed, its great superiority over amyl lies in its gradual and more lasting effect, and the more convenient manner of prescribing it, and it can be taken regularly two or three times a day, or oftener, in one minim of a one per cent alcoholic solution being the usual commencing dose. It is also made up in chocolate tablets, each containing one-hundredth part of a minim; but its action, when given in this form, is not so rapid as that of the alcoholic solution.

"M. P., aged fifty-five, retired from business May 4th, 1882. Has been ailing for two weeks, but has been about. Has noticed swelling of legs toward night for two months, and his face had swollen occasionally for the last month. Has always been careless of his health, and if he got wet, an event which happened not unfrequently, he would never change his clothes. He was taken suddenly ill last evening while out walking, about a mile from home, and had to be taken home in a cab. On visiting him at 10 A.M., I found him sitting up in bed, gasping for breath, countenance distressed, and of a sickly pallid hue. Pulse feeble; temperature 98°; tongue pale and sodden; expectoration frothy, with some little blood intermixed; moist *râles* over whole chest, back and front; urine abundant, clear, containing one fourth of albumen. At 2 P.M. I found his condition and posture unchanged; he could only speak a few words before he had to stop for breath. He inhaled three minins of nitrate of amyl (a capsule broken in a handkerchief). Within a few minutes his breath was easier, and he was able to recline in bed for the first time since the attack came on before I left the house. I then put him on nitro-glycerine one hundredth of a minim ter die.

"May 5th. He was lying easily in bed, breathing quietly, and expressing himself as feeling quite well, said he was only waiting till I came before he got up I cautioned him that his life hung by a thread, and that he could only hope to continue it by the strictest obedience. Unavailing caution. On the 6th he still remained in the same improved condition. The next day he refused to take any more medicine, but promised to stay in the house, a promise which he did not keep. On the 16th he had another attack, and died quietly within thirty-six hours, the urine being loaded with albumen."—*British Medical Journal.*

In an Essay entitled, "An Experimental Investigation of the Action of Chloral, Opium, and Bromide of Potassium," by Dr. Sidney Ringer, Professor of Medicine in University College, London, and Dr. Harrington Sainsbury, the authors make the following important observations on certain well-known drugs, after discussing the physiological effects of the agents mentioned in the title of their paper: "Clinically, the dangers of bromide of potassium and of chloral have been recognized; and thus in our text-books we find the statements that the presence of grave adynamic symptoms contra-indicate chloral and bromide of potassium. Opium, on the other hand, in such adynamic states, frequently appears to lend actual support. The results of definite experiment we find to accord with the results of clinical experience; and the value of the former lies in that they confirm, and by their definiteness must tend to enforce, the teachings of the latter. The choice of a drug is, however, no simple matter; an advantage here may be outbalanced by a disadvantage there; and practical men may object that they would gladly give opium, but that the disordered stomach, blunted appetite, inactive liver, and torpid intestines, more than outweigh the advantages of opium administration. This clearly is a matter for consideration in the individual case under treatment; and the decision will have to be according as one or other element, asthenia, or derangement of the digestive, etc., powers, is most to be feared. These objections to opium, on the one hand, and chloral and bromide of potassium, on the other hand, raise the question as to whether, in very many cases, a drug, at present rather extensively used, especially in America, viz., bromide of sodium, might not with advantage be substituted in their place. The salts of sodium generally contrast very markedly with those of potassium; for the chlorides, bromides, and iodides of these two metals, the lowest figure would represent the potassium as ten times as active as the sodium. These precise numbers refer to action on the ventricle of the frog's heart (See *Medico-Chirurgical Transactions*, vol. lxv., concerning the action of the salts of potash, soda, and ammonia on the frog's heart), but on all hands the evidence is forthcoming that, while salts of potassium are very poisonous, those of sodium are very slightly so. One of the marked points of contrast between the two sets of salts is to be found in respect of inhibition; potassium salts inhibit the frog's ventricle strongly, sodium salts scarcely at all. Here, however, we are considering drugs as to their cardiac effect; and, in respect of this, sodium bromide would rank far ahead of bromide of potassium, chloral or opium, as to inocuousness. The objections holding for opium would not apply here, for sodium salts are generally very little disturbing to the tissues. With these advantages the general verdict of clinical experience is to the efficacy of bromide of sodium as a hypnotic, and, indeed, as a substitute for bromide of potassium; and should this position but be maintained, it is clear that bromide of sodium will be in very many cases the sedative above all others to be selected."—*British Medical Journal.*

Dizziness and Deafness.—Dr William James, of Harvard University, has made some experiments to test the modern theory that the semicircular canals, instead of being connected with the sense of hearing, serve to convey the feeling of movement of the head through space, which, when intensified, becomes dizziness. It occurred to him that deaf-mutes, having their auricular organs injured, might afford some corroboration of the theory, if it were true, by showing a smaller susceptibility to dizziness than persons with normal hearing. Of 519 deaf-mutes examined by subjecting them to a rapid whirling, 186 were wholly insusceptible of being made dizzy, 134 were made dizzy in a very slight degree, and 199 were normally, and in a few cases abnormally sensitive. Nearly 200 students and instructors in Harvard College, supposed to have normal hearing, were examined for purposes of comparison, and but a single one proved exempt from the vertigo.—*Popular Science Monthly.*

At the regular meeting of the Society of Medical Jurisprudence and State Medicine, Prof. Edward C. Spitzka read a paper on spinal injuries as a basis for litigation. The improvement in the modes of travel, he said, had caused accidents by shock—injuries to the spinal column—to be much more numerous than formerly, and it was of great importance to be able to detect the real from the sham cases. Experts called in cases of this kind, where accidents had occurred, had a tendency to become almost involuntarily partisan, and to give their testimony on the side for which they had been retained, and in many cases where verdicts had been given—some of them for large amounts—against railway companies the parties had without doubt been shamming. He thought that if railroad companies should recognize more generally the claims of deserving calls, and not resort, as they too frequently did, to chicanery to defeat the claim, they would enlist for themselves the sympathy of the press and of the people generally. Mr. George P. A—— said that the matter was involved in a fog. He defended a man once who walked twenty miles between dark and daylight to commit a robbery, and yet the doctors swore that it was impossible for that man to rise from his bed. Spinal disease was this man's capital; he did not rob railroads, but he did rob banks and rich men and became wealthy. Mr. Max Eller said that the main point was, when a person sued for damages, how far the court had power to order what might be considered an invasion of private rights by compelling him or her to submit to an examination. He thought that if there should be a boardof experts appointed by some power, who could not be retained on either side, but would give an impartial opinion, much of the evil at present complained of would be done away with.

Breakfast Beverages.—Each of our commoner breakfast beverages, namely, tea, coffee, and cocoa, presents sundry relative advantages and disadvantages, which have been well established by scientific experiments and general experience, and which are qualities that sometimes assume a special importance in certain conditions of health, habit, occupation, climate, and disease. Warm infusion of tea has been proved to have a marked stimulant and restorative action upon the brain and nervous system, and this effect is not followed by any secondary depression. It farther increases the action of the skin, and raises the number of the pulse, while it has but little effect upon urination, excepting simply as a watery diuretic. It tends to lessen the action of the bowels. Dr. Parkes found that tea is most useful as an article of diet for soldiers. The hot infusion is a patent protective against extremes both of heat and of cold; and Sir Ranald Martin proved it to be particularly valuable in great fatigue, especially in hot climates. Coffee, like tea, when used as an article of diet, especially affects the nervous system. It is a brain- and nerve-stimulant; in very large doses it produces tremors. It increases the action of the skin, and it appears to have a special power in augmenting the urinary water. It increases both the force and frequency of the pulse. Unlike tea, it tends to increase the action of the bowels. Coffee has been proved to be an important article in a soldier's dietary, as a stimulant and restorative. Like tea, it acts as a nerve-excitant, without producing subsequent depression. It is serviceable against excessive variations of cold and heat, and its efficacy in these respects has been established in antarctic expeditions, as well as in India and other hot climates. Dr. Parkes pointed out that coffee has a special recommendation in its protective influence against malaria. While admitting that the evidence on this point was not strong, he held it to be sufficient to authorize the large use of coffee in malarious districts. Coffee should be used as an infusion. If coffee be boiled, its delicate aroma is dissipated. The theobromin of cocoa is, chemically, identical with the thein of tea, and the caffeine of coffee. While tea and coffee are comparatively valueless as true foods, cocoa, by reason of the large quantity of fatty and albuminoid substances it contains, is very nourishing, and is of high dietetic value as a tissue-forming food. Compared with tea and coffee, it is a food rather than a stimulant, being akin to milk in its composition and place in the diet scale. It is useful to sustain the weakly, and to support the strong in great exertion, as a readily assimilable and general form of nourishment.

McDaniel's Method of Artificial Respiration.—Dr. McDaniel does not propose to set aside all other methods of artificial respiration, "but," as he says, "merely to introduce into general practice a new one of very great efficacy, very safe, of very convenient and speedy application, very easily comprehended, and specially adapted to small patients."

Without farther comment, we will now quote from Dr. McDaniel's last paper, only premising that enough favorable reports have been made in the cases of new-born infants to challenge the attention of the profession.

"After," says the author, "the invention of the spirometer, by Hutchinson, it was soon ascertained that the capacity of the chest is greater in the erect form than in any reclined or recumbent position. This is a great fact for physiology, for pathology, and for therapeutics. The chest is a cylinder, and the diaphragm is a piston whose pump motion varies the chest capacity and causes an ingress and egress of air. In the recumbent position the liver and other contents of the abdomen press upon the diaphragm and diminish the chest capacity. In changing from the recumbent to the erect position, this pressure is gradually removed and the chest capacity is increased. It is obvious that all that is necessary to cause air to enter the lungs, is to change the patient from any recumbent or any inclined position to the erect one ; and all that is necessary to cause the air to pass out of the lungs is to move the patient back from the erect to any inclined or recumbent position. But I have discovered that the increase of capacity in the chest is slow and small in moving from the recumbent position to an elevation of forty-five degrees, and rapid in ascending from forty-five degrees to the erect position. It is, therefore, not essential in practising artificial respiration, to move the patient through the whole range from recumbency to erectness, but is sufficient to use only the upper half of this range, merely moving the patient from a forward inclination of forty-five degrees to the erect position and back again. *Every upward and backward movement produces an inspiration, and every forward and downward movement an expiration, and the two together a complete respiratory act. By regularly repeating these acts, artificial respiration is rhythmically performed, and can be prolonged at will.* Any one will find that if he leans forward from the erect position to an inclination of say forty-five degrees, he will mechanically and involuntarily expire, and if he moves back to the erect position he will mechanically and involuntarily perform inspiration. He cannot, by any power of volition, prevent the result or reverse it. *This* *simple movement upward and backward to the erect position, and downward and forward to a sufficiently inclined position, regularly repeated, constitutes my proposed new method of artificial respiration.*"

Dr. McDaniel is of Montgomery, Alabama.

CASTOR OIL AND GLYCERINE.—A nice mixture of these is made by taking equal parts of the finest *Italian oil* and pure *glycerine*, adding the oil gradually to the glycerine by thoroughly triturating in a warm mortar. If desired, pink coloring (cochineal) and flavoring (vanilla) can be added, thus producing a most palatable jelly-like mass, which can be taken by the most fastidious lady or child without the slightest suspicion of having swallowed castor oil.

BILIARY COLIC—Succinate of Iron.—Dr. Jas. A. Stewart, of Baltimore, revives the claim that the *hydrated succinate of the peroxide of iron* is efficient in the treatment of gall-stones. He reports one case in which a patient, a lady of forty, who had suffered for three months and was greatly emaciated, recovered health rapidly under drachm doses of the succinate. There had been no trouble for two years. Dr. Stewart's case, as reported in the *Maryland Medical Journal*, is not very convincing, as the trouble had only lasted a comparatively short time, and no gall-stones were actually found.—*New York Medical Record, March* 3, 1883.

CEREBRAL ATROPHY AFTER AMPUTATION.—An old soldier had his left arm removed forty years before his death. During the last few years of his life the leg on the same side of the body became gradually paralyzed. At the autopsy M. Bourdon found a notable wasting of the upper part of the ascending frontal convolution, of the paracentral lobule, and of the neighboring crest of the cerebral hemisphere. The lateral ventricle of the same side was dilated, especially at the site of the atrophy. Some wasting was also observed in the corpus striatum, the pons, and the medulla oblongata of the same side. The right hemisphere is said to have weighed thirty-one grammes less than the left. It is right to speculate, as M. Bourdon did, on the cause of the late paralysis of the lower limb. Was it due to a spread of the atrophic change in the central nervous system? Such a conclusion is not out of harmony with the present doctrines of neural pathology.

IMPERFORATE HYMEN PERSISTENT IN LABOR.—Mr. H. Grey Edwards, B.A., M.B., B.Ch., of Bangor, writes: At 11 P.M., April 25th, 1883, I was called to see S. O., primipara, aged thirty-two, said to have been in labor since Monday morning, the 23d ultimo. I found the patient suffering from severe "pains." On digital examination, I was somewhat surprised to find that the orifice of the vagina was completely closed by a tough membrane. Anteriorly, it was comparatively thin, and attached to the edge of the vaginal orifice, whence it sloped gradually backward until, at the posterior wall, it was attached an inch and a half from the orifice. Here it was very thick, and gave the same sensation to the finger as the walls of the vagina itself. The fœtal head could be easily felt through the tissue, which was perfectly lax, resisting all efforts at rupture with my finger.

Having decided to give the uterus time to do its best, I left, calling again at 4 A.M.; but, though the pains had been strong and frequent, things were much in the same condition. By sawing with my nail at the thinnest part, I eventually got the end of my finger in, and tore the hymen by drawing the finger backward, until about halfway across, but I could not manage it further. I then waited an hour, in the hope that the remaining half would not be sufficient obstruction to delivery; but "pains" becoming short and slight, I put on a forceps, and delivered without difficulty. The patient is going on satisfactorily.

I have reported this case under the belief that such a tough condition of hymen is most unusual.

It is medico-legally interesting, that one single act of copulation, in spite of the seeming difficulties of the case, sufficed for impregnation.—*British Medical Journal.*

INHERITANCE OF CANCER.—In the course of a paper on the Local Origin of Malignant Growths, read in the Section of Pathology at the last annual meeting of the British Medical Association, Mr. Jonathan Hutchinson observed: "It is needful to say a few words as to the inheritance of cancer in its bearings upon the doctrine of its local origin, since an adverse argument has been founded upon it. It has been urged with much plausibility, that a disease which is capable of inheritance must be a constitutional one. No doubt, to some extent, this is true; but the argument must not be pushed beyond its legitimate scope. The laws of inheritance, as with property, so with disease, concern convection, and not origin or production. The inheritance of a fortune is a very different thing from its acquisition, and gives us no clew as to how that may have been accomplished. The causes of cancer, as we meet with it in practice, may, perhaps, be usefully classed as three, senility of tissue, local irritation, and inheritance. Of these, only the first two can rank as true causes; the latter, although practically of great importance, is only a mode of perpetuation of that which the other two have originated. Senility gives proclivity, local irritation excites, and subsequently hereditary transmission may perpetuate. The facts, as regards chimney-sweeps' cancer, gives perhaps the best illustration of what I mean. Before this malady was practically suppressed by Act of Parliament, I believe it was commonly noted that where the trade of sweep went, as it often did, in a family, proneness to suffer from soot-warts, and for soot-warts to degenerate into cancer, increased in successive generations. Grandsons and great grandsons were attacked at earlier ages, and with much greater frequency, than those who were new to the trade. Here, then, we observe the liability to a form of cancer, produced in the first instance by a local cause, perpetuated and intensified by hereditary transmission. We witness the genesis of cancer, and see the shares taken by local irritation and inheritance, and how entirely secondary the latter is as regards the former. If we ask what it is which is inherited in the case of the transmission of cancer, probably the nearest approach to an answer which can be given will be to say that it is a peculiarity in cell-structure generally; not germs, not a blood-malady, but a special type of cell organization, permitting, with greater ease than in other persons, the injurious influence of local causes. Even in the sweep, whose forefathers have suffered from soot cancer, the transmitted tendency still waits for the exciting cause; and the disease occurs, not in internal and, therefore, protected parts, but on the same part as it did in his great-grandfather, and under the direct influence of exactly the same cause. Not that I would for one moment doubt that, in some instances, the inherited proclivity may be so strong, that it does not wait for the help of any exciting causes, but manifests its power in the production of a cancer which may be considered spontaneous. It is probable in this way that we ought to explain almost all cases of cancer occurring in very early life; and it may be the fact that, in a few of these, something more definite than mere tissue proclivity may be transmitted, possibly even germinal matter, especially in those cases in which the parent was the subject of the malady. Thus, then, although I fully admit that in the examination of our patients we must make large allowance for the influence of inheritance, I wholly deny that we can allow it rank as a true cause of cancer."—*British Medical Journal.*

COMMITTING A NUISANCE.—"You are a nuisance, I'll commit you," said an offended judge to a noisy person in court. "You have no right to commit a nuisance," said the wit.

AN ACCOUNT OF TWO HUNDRED AND EIGHT CONSECUTIVE CASES OF ABDOMINAL SECTION PERFORMED BETWEEN MARCH 1ST AND DECEMBER 31ST, 1881.—Mr. Lawson Tait, F.R.C.S., Eng., Surgeon to the Birmingham and Midland Hospital for Women, in a paper bearing this title, gives the following analysis of the series: Exploratory incisions, 13 cases, with no deaths; incomplete operations, 8 cases, with four deaths. Operations for cystoma: one ovary, 36 cases; both ovaries, 28; parovarian cysts, 12; hydrosalpinx, 16; pyosalpinx, 20; or 112 cases, 3 deaths. Removal of uterine appendages: for myoma, 26 cases; for chronic ovaritis, 12; for menstrual epilepsy, 1; or 39 cases, 5 deaths. Hepatotomy for hydatids, 2 cases; hydatids of peritoneum, 2; cholecystotomy for gallstone, 2; radical ot hernia, 1; nephrotomy for hydatids, 1; nephrectomy, 1; intestinal obstructon, 1; solid tumors of ovary, 3; hysterectomy for myoma, 10; cysts of unknown origin, 1; tumors of omentum, 1; pelvic abscess opened and drained, 7; chronic peritonitis, 4; or 35 cases, 4 deaths. Total, 208 cases, with 16 deaths. These operations were not performed under carbolic spray.—*British Medical Journal.*

DEATHS DURING THE ADMINISTRATION OF ANÆSTHETICS.—In a paper entitled "Remarks on the Death-rate of Anæsthesia, with an account of six fatal cases," Mr. W. Roger Williams, F.R.C.S., remarks in conclusion, "I have observed that those who administer anæsthetics too often, do so without any fixed principles to guide them. This is regretable, because, as many of these cases show, the fundamental laws of the anæsthetic art cannot be disregarded without entailing a deplorable sacrifice of life. I will here endeavor to state, in the briefest manner possible, the most important practical inferences from them. With regard to chloroform, then, subject to the attainment of the object in view, too much air cannot be given during its administration; and with regard to either, too little air cannot be given during its administration. From this, it follows that a long time is required to induce anæsthesia by chloroform; but to produce the same result with ether, a short time is sufficient. Now, by a long time, I mean about a quarter of an hour, and by a short time, about five minutes. Surgeons are not unfrequently to blame in this respect. How often one has heard it said to the chloroformist—'Be as quick as you can; I want to commence the operation in five minutes.' In my opinion, this is equivalent to saying—'Kill at least one per cent of my patients.' Those kind of inhalers are the best which most facilitate the fulfilment of these requirements. For giving chloroform, one with a wire framework, having a diaphragm of flannel, or some similar material stretched over the top of it, on which to evaporate the anæsthetic, but open at the sides, would be very good; but a piece of lint, or the corner of a towel, properly used, would do as well. A graduated drop bottle is necessary in any case, as only a small quantity of chloroform should be poured on at a time, which requires to be frequently renewed. For the administration of ether, Ormsby's inhaler seems to me to be the best; it was designed to fulfil the requirements just mentioned, and I have found it answers admirably. There is only one other point I will now mention, and that is the importance of watching the respirations during the process. To do so properly, of course the epigastrium must be uncovered. It is of much greater value than feeling the pulse, since, when the latter stops, there is, as a rule, an end of the patient. Mr. Lister has very ably insisted on this. However, I have found it generally neglected at King's College.—*British Medical Journal.*

Face Presentation.—Dr. Strachan, of Sunderland, writes: "A. W., aged twenty-two, primipara, at full period, was first seen after slight dilatation of os had taken place, the face having barely engaged the pelvis, although the membranes were ruptured, and the liquor amnii was escaping. The finger touched the right malar bone and orbit. The pains were frequent but not strong, and the patient was hysterical. I gave opium, and left her, and was sent for twelve hours later, when the os was fully dilated, and the face, which had now descended to about the middle plane of pelvis, was found presenting, in the first position, the right oblique diameter, with chin backward toward right sacro-iliac-synchondrosis. As the forehead seemed decidedly to take precedence, I tried gently to make the head rotate on its transverse axis into the first cranial position with the occiput toward the left-ilio-pectineal eminence, but did not succeed. This was the method recommended by the late Dr. J. Clark, but is now abandoned. Next, introducing my finger into the mouth, I endeavored to bring down the chin—the proper analogue of the occiput—at the same time assisting the natural rotation into the fourth facial position—the left oblique diameter, with the chin forward. But all my efforts seemed fruitless to move the head in any way, especially as the pains were weak. So, after waiting two or three hours longer to see what course nature intended to adopt, and as the frontomental diameter still remained impacted in the same position, I gave chloroform, and applied the long forceps with double curve; the upper blade, which had to be introduced first, being rather difficult of introduction between the prominences of the face and the maternal parts, so as to avoid injuring either. The long straight forceps are recommended in these cases with the view of better assisting rotation, but in this instance the double-curved ones answered remarkably well, as under rather powerful traction, accompanied by a gentle twist in the desired direction, rotation took place into the fourth position, and the face was born chin forward, the hollow of the forceps pointing backward. Had rotation not taken place, the case would most likely have ended in craniotomy. The child was born alive, and although slightly disfigured at the time, with the caput succedaneum over the right cheek and orbit, which were both considerably swollen, it has done well; the mother has also made a good recovery."—*British Medical Journal.*

An Electric Rat Annihilator.—The New York *Times* gives this new discovery of the manner in which the electric light wires may be utilized: The discovery that the wires of the electric light forms the most efficient of all rat-traps was made accidentally. The electric light suddenly went out one night in a private house, and on examination it was found that a rat had touched the two wires in the cellar and thus closed a circuit with his unsuspecting paws. The rat was killed instantaneously by the electric current, and his body remained, with one paw uplifted, in precisely the attitude in which death overtook the unfortunate animal.

The hint thus furnished has been used by Prof. Smith, and is the basis of his electric rat and mouse annihilator. Instead of an elaborate trap, which rats and mice of any intelligence refuse to enter, the Professor uses wires. On all sides of the cellar and at a height of two inches from the ground is placed a small wooden trough sprinkled with cheese, while on each side of the trough run the electric wires which furnish light to the rest of the house. The mice and rats are naturally attracted by the cheese, and in endeavoring to reach it touch the two wires and are instantly killed. This admirable invention will clear a house of rats and mice in a single night, and in some places where it has been tried no less than three gross of assorted rodents have been found the next morning standing in hungry attitudes over the fatal trough. It is obvious that this admirable invention will entirely supersede the old-fashioned traps, and that its universal adoption will lead to the total extermination of rats and mice.

Lord Wolseley on the Issue of Spirit-rations to the Troops in Egypt.—Sir James Hanbury, late Principal Medical Officer of the army under Lord Wolseley in Egypt, was under examination before Lord Morley's Committee on Friday, the 19th instant, and again in the course of the present week. Several matters will probably be cleared up when the evidence given by this medical officer who, of course, holding the high position which he did, was Lord Wolseley's chief medical adviser in sanitary matters, is published. Among other points, we may hope to get an explanation regarding the issue of spirit-rations to the troops in Egypt. The distribution of spirits to the troops was quite contrary to the views of the commander-in-chief, if we may take as accurate the report of Lord Wolseley's recent speech to the temperence societies at Blackburn, which appeared in the *Times* of the 19th instant. According to the report referred to, Lord Wolseley told the deputations that he himself firmly believed that, if we could only have an army which not only wore Her Majesty's colors, but also the blue-ribbon, it would be the finest army ever sent into the field to represent this country ; yet, during the recent campaign in Egypt, "the doctors told him it was very necessary that the men should have grog ; and he was obliged, owing to great pressure put upon him, to allow it occasionally." The recorded experience of some of the ablest medical officers has shown that alcoholic drinks neither give help as regards bodily exertion, nor protect the constitution against the invasion of disease, and, with respect to hot climates, that they aggravate rather than lessen the effects of heat ; moreover, Lord Wolseley was able to quote, with regard to Egypt itself, that, during Sir Ralph Abercrombie's expedition to that country in the year 1800, the good conduct and health of the troops landed were attributed to the fact that no liquor was issued to them—testimony which was confirmed by Sir James McGrigor in his "Medical Sketches of the Expedition to Egypt." Under all these circumstances, it seems strange that the issue of grog to the men should have been pressed upon the commander-in-chief of the army recently engaged in active operations in Egypt by the medical officers. As, however, the particular conditions under which the advice was given have not as yet been published, it seems only right to abstain for the present from comments on the observations made by Lord Wolseley on the subject to the deputations from the Blackburn temperance societies. It is greatly to be hoped that the opportunity of forming an impartial judgment on the subject will be afforded when the report of Lord Morley's Committee, and the evidence on which the report will be based, have been presented to Parliamant. The matter is one of more than passing interest.

STATISTICS OF OVARIOTOMY.—Professor S. D. Gross, in a letter to the *Medical News* (*College and Clinical Record*), states that last summer he wrote to Mr. Knowsley Thornton, of London, begging him to be so kind as to furnish him with an account of the latest statistics of ovariotomy in Great Britain, including his own, for the new edition of his work on "Surgery." These arrived too late for that purpose, and are now published, by Mr. Thornton's permission, in the following letter, in that journal. As showing the latest triumphs of ovariotomy, Professor Gross thinks these figures possess a deep interest to ovariotomists and the profession generally in this country:

22 PORTMAN STREET, LONDON, W.,
November 30, 1882.

DEAR DR. GROSS: I fear you will think I have forgotten my promise. At last I send you the statistics. I have found it very difficult to get them. I can get nothing later as to Clay's and Dr. Keith's, only up to October, 1881. The others are almost to date.

	Cases.	*Recovered.*	*Died.*	*Mortality per cent.*
Dr. Clay, of Manchester,	93	64	29	31.11
Mr. Spencer Wells, - -	1088	847	241	22.15
D. Keith, - - -	381	340	41	10.76
Mr. Knowsley Thornton,	328	293	35	10.67
Mr. Lawson Tait, -	226	199	27	11.94

Dr. Peaslee (page 276) credits Mr. Clay with two hundred and fifty cases; recovered, 182; died, 68; mortality, 27.2. I have not been able to verify these results, and therefore have not given them in the above table. The discussion in the *British Medical Journal*, in 1880, failed to elicit any statement from Clay himself *as to results.* He then said that he had performed four hundred before he ceased to operate. I think, under any circumstances, his results should hardly be given in comparison with those of Wells, Keith, Tait, and myself, as ours are thoroughly authenticated by published tables; Clay's never have been.

I think my own mortality answers your question as to the value of the spray. I did not know until I began to look up the matter for you that I actually have got slightly the lead.

Trusting that, though late, the figures may be of some use to you, believe me with much esteem,

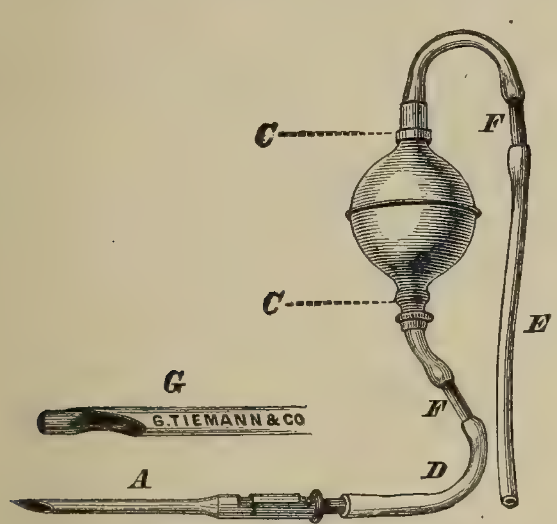
Very truly yours,
J. KNOWSLEY THORNTON.

A HANDY ASPIRATOR. By SIMON FITCH, M.D., Edin. St. John, New Brunswick, Canada.

This is an india-rubber apparatus, like a Higginson or Davidson syringe, but with *treble thickness of all the walls*, which give strong resilience and powerful suction to the bulb, and prevents possibility of obstruction from collapse of the tubes.

The aspirator-needle may be attached to either tube, for exhaustion or injection, and it may be worked with *one* hand while the needle is inserted and steadied with *the other*.

After the needle is introduced, the bulb should be held upright, or perpendicular, with the orifice by which the fluid enters *below*, and the orifice of exit *above;* the valves at these two orifices will fall exactly into place, and regurgitation toward the needle will be impossible.



If the operation is to test the existence of fluid at uncertain depths, the bulb may be tightly squeezed till the point of the needle enters the surface ; then the pressure may be relaxed, when the strong suction will discover fluid instantly upon the needle reaching it.

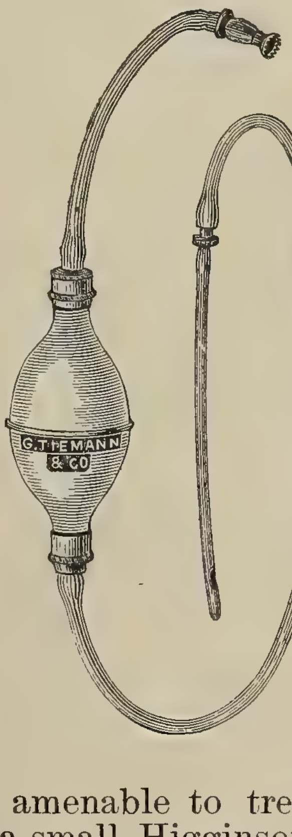
If the operation is to empty a cavity, as the bladder or pleura, then, after the current is established, by once or twice working of the bulb, the flow will continue of itself, from mere siphon-action, without further manipulation of the bulb ; but if, from thickness of the fluid, or from the smallness of the needle, the stream seems sluggish, it may be quickened by working the bulb occasionally or continuously.

I have used this apparatus in hydrothorax and empyema, and in exploration of obscure abdominal and pelvic enlargements, with great satisfaction ; and, with the *dome-trocar* needles of No. 1 and No 4 sizes, it is available for all purposes of aspiration, and especially for cases requiring accurate steadiness of the inserted needle, as in tapping the pericardium and the joints ; for, as the whole affair is managed by the operator alone, there will be complete unison between the hand holding the needle and the hand working the bulb.

Messrs. Tiemann make the instrument exceedingly well, with the *dome* needles, as described, and fit it into a very small case.

On the Treatment of Gleet and the Prevention of Stricture by Irrigation of the Urethra.

By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.



. . . . For some time past I have been employing in the treatment of gleet a very thorough irrigation of the urethra, throughout its whole length, by means of an apparatus which I have had specially constructed for the purpose. So far the results obtained have been highly satisfactory in speedily curing the gleet, and consequently preventing the formation of stricture. In carrying out my views I have taken a hint from what is now done with so much benefit in the case of the nasal passages, a thorough irrigation or washing out of these by a suitable contrivance being substituted for the imperfect medication by syringes, brushes, snuffs, and such-like expedients, which were formerly prescribed with so little advantage. Many of the diseases of the nasal spaces which heretofore were considered most intractable are, by the improvements in mechanical contrivances referred to, rendered perfectly amenable to treatment. To effect this with the urethra I make use of a small Higginson's syringe and a sufficiently resisting vulcanized india-rubber catheter. I direct the patient twice or thrice a day to douche most thoroughly his urethra by means of these appliances, entirely discarding for the purpose all his notions about the old glass syringe arrangement as being utterly unfitted to cure a gleet. If the patient does not, from the first, recognize the necessity of submitting his urethra to a complete medicinal washing, his efforts, like his previous ones, will probably be ineffectual.

I direct the patient to denude himself of his nether garments, and, seating himself in a chair with his pelvis inclined forward to the edge, to introduce the soft catheter and gently pay it into the urethra, having previously anointed it with some vaseline. If the patient finds that he can introduce and retain more easily a stiffer catheter, he may substitute one of the French instruments in the same way, of the required length and size, taking care that the eye is within half an inch or thereabouts of the end. Having done this, he attaches the catheter to the small Higginson's syringe, which is connected with a tumblerful of the fluid to be used, tepid. I generally make use of the sulpho-carbolate of zinc, in the strength of about half a teaspoonful to a pint of water. The patient, steadying the catheter in his urethra with his left hand (not squeezing the meatus around it), slowly compresses the ball of the syringe with his right hand, the vessel containing the fluid to be injected being placed by his right side, or attached, as it may be done by a bottle arrangement, to the feeding-pipe of the syringe. In this way the patient is directed to continue using the apparatus until the urethra has been completely washed out; the fluid, after it has circulated between the walls of the urethra and the catheter, escaping through the meatus, where it is received into some convenient receptacle.—*Lancet.*

An Inquiry into the Causes of the Increase of Cancer. By Hugh P. Dunn, F.R.C.S.—At the end of a long and elaborate thesis on this question, Mr. Dunn concludes: "1. That, in the face of incontrovertible facts, cancer is increasing in England. 2. That this increase is due (*a*) To the success attending the legislative measure and other means for the preservation of the infant population, by which a large proportion of persons reach adult age, and the general healthiness of the community is increased. (*b*) To the greater prominence which, in the present day, prevails, of the most predisposing causes of the disease—such as the fecundity of women, the prevalence of high nervous tension, the existence of possibly greater general luxury in the mode of living. 3. That the immunity apparently demonstrated by the records as present in certain counties of England and Wales, is presumably, as we have attempted to show, not due to any real declination of the disease, but rather to such causes as can be explained by special local predisposition to other diseases, to which a large proportion of the adult population succumb. 4. That in consequence of this, if each district of England and Wales were equally healthy, each would probably exhibit a high cancer mortality. 5. That the geographical area of which England and Wales is composed is insufficient to account directly for interruption in the distribution of cancer as met with in this island."—*British Medical Journal.*

Wild Inhabitants of a Mountain Cave.—Probably the greatest curiosity in the shape of a human being ever seen by Denver people is on exhibition here now. The story of the wild man and the wild woman from the mountain fastnesses of the Pueblos is not entirely a myth. It is said these singular beings were captured in a cave near Los Crusis about two months ago by Captain Lovett, who has them in charge. Captain Lovett tells a strange story of their capture. For many months he had known of their existence, and resolved to capture them. With a party of three others he discovered their hiding-place in a cave. Relying upon his great physical strength, he entered the place with the intention of dragging the little people from their bed, when the man pounced upon him like a tiger. A desperate struggle ensued, and had not his comrades come quickly to the rescue, Captain Lovett would have been killed. So badly was he hurt that he was confined two weeks to his bed. Though the man will not weigh more than eighty-five pounds, he is said to be a creature of giant strength. After this encounter it required the combined strength of the rest of the party to conquer the little giant. When found, both were naked and utterly devoid of intelligence. Though they could communicate with each other in a guttural chatter resembling that of the monkey, there was not an articulation that in any wise assimilated a word in any language of earth. A few days ago they were brought to Denver, and placed on exhibition at the place named. They seem to be utterly devoid of sense, but have become tractable by constant association with their keeper. They have the color of the Indian, and both are hideous in appearance. Whether the story of their wild life be true or not, they are idiots, and probably belong to the Pueblo tribe.—*Denver* (*Col.*) *Tribune.*

THE following from the address of the President of the New York State Homœopathic Society, referring to the New York Code of Ethics, shows the standpoint from which it is looked upon by outsiders: "We know that we could do them good in the department of the practice of medicine to which for half a century we had specially devoted ourselves. And then they (the New York Regulars) could be of service to us in the various departments of surgery, pathology, hygiene, and climatology, which we had more or less delegated to them, and response on our part was not necessary, for they were merely coming to the position that we had occupied for a score of years; . . . we are then to continue . . . ever holding out our hands of welcome to any one educated to the level we have fixed." For a homœopathic dose this is rather strong; we hope, however, our New York friends will experience no trouble in swallowing it, and no ill effects afterward.—*Medical Register.*

AT a recent meeting of the Baltimore Academy of Medicine, Dr. C. Johnson exhibited a specimen of forty inches of intestine passed by rectum. The patient, a lady, was thirty-two years old, and was always subject to indigestion and colic. Stercoraceous vomiting accompanied the attack, during which the specimen was passed. For nine days previous to the vomiting there had been no stool, and a circumscribed tumor was felt. After vomiting more or less for three days the sphacelated bowel, together with some omentum, was passed. Part of it still contained fæces. The specimen was a part of the ileum.—*Weekly Review.*

COLIC—SULPHATE OF QUININE.—Dr. N. R. Derby, of Bergen Point, writes in the *Medical Record* of December 2d, that he discovered, by accident, that a dose of eight to ten grains of *sulphate of quinine* will speedily put an end to an attack of colic. Since childhood he had himself been a frequent sufferer from this distressing trouble, but since this discovery he has been able to arrest an attack either in himself or others. His observations extend over a period of three years, and have embraced many cases.—*New Remedies, February,* 1883.

DENTAL INQUISITION.—The *Times* analyzes a collection of documents emanating from a society founded in Paris by MM. Victor Hugo, Clémenceau, Barodet, Henri Rochefort, and many Republican senators and deputies, under the title of "Ligue de l'Intérêt Public: Société Protectrice des Citoyens contre les Abus." The energies of the association are at present being directed toward the establishment of a system of dental inspection in all the primary schools of Paris; and a petition has been laid before the Municipal Council in furtherance of this object. The memorialists feelingly call attention to the fact that the teeth of boys in *lycées* are regularly looked after at the cost of the State—"that is, at the expense of the working classes;" and they consider that the pupils in poorer schools are entitled to the same privilege. It is proposed, therefore, to adopt a system which is said to be working with the happiest results at Cherbourg, and at Verviers in Belgium. School boys and girls are to pay four visits a year to official dentists, who will become responsible for the good condition of their teeth, and perform whatever extractions are necessary, gratis. The visits are to be compulsory; and by a thoughtful arrangement, which is sure to please the young people, they are to take place on Sundays so as not to interfere with lessons. Parents who allow a boy to miss one of the quarterly inspections on the insufficient ground that there is nothing the matter with his teeth will be punished by seeing his name removed from the dentist's list for six months. On a repetition of the offence the boy will be cut off from the benefits of free dentistry forever. A powerful committee has been appointed to assist the passage of this valuable measure through the Municipal Council.

APOMORPHIA A SAFE, CERTAIN, AND QUICK EMETIC.—Mr. Brown, L.R.C.P., of Bacup, writes: "It has occurred to me, in several cases, to have patients who have been obnoxious to ordinary emetics. The emetic has caused nausea and depression, but no emesis. A few weeks ago, two cases of this kind occurred in my practice. One was a man who had been drinking and eating indigestible food. Domestic emetics had been given, which had produced nausea and ineffectual attempts at vomiting. It occurred to me that apomorphia, used hypodermically, might succeed. I prepared a solution containing a grain of chloride of apomorphia, twenty minims of rectified spirit, and water to two drachms, of which I administered ten minims hypodermically, which equals one twelfth of a grain. In seven minutes, it produced free and copious vomiting. There was no nausea, nor depression, nor intolerance of food. The other case was a man who was a total abstainer. Patient had loaded his stomach with a mass of indigestible food, which had caused acute pain in his stomach. He had tried domestic remedies without success. Pain was so severe that I was called up at night. The other case having been so successful, I at once administered ten minims of the solution. In two minutes, without any previous nausea or warning, the contents of the stomach were violently ejected on the floor, the patient not having time to get a vessel to vomit into. This was repeated two or three times at short intervals, and the patient had speedy relief. In this case there was no nausea or bad after-effect. From inquiries which I have made, I am convinced that the value of apomorphia as a safe, certain, and quick emetic, is not appreciated, because not known. In cases of alcoholic and narcotic poisoning, it is a most valuable remedy, and judging from my experience in one case, the emesis is delayed a few minutes. In cases of acute gastralgia, and convulsions in children due to overloaded stomach, apomorphia will prove a speedy cure. I have given one sixth of a grain of the drug to children by the mouth without producing any effect whatever."—*British Medical Journal.*

The Preservation of Milk.—Milk allowed to remain at a temperature of 100° in a water bath for two hours, will keep sweet and pure for at least six months. It is important to seal it up before placing it in the water bath. The method known as Becker's, which consists in keeping the bath at 60°, is unsatisfactory, as milk thus treated is preserved for only forty-eight hours.—*Pharmaceutical Record.*

Menstruation is sometimes continued until quite late in life. Dr. W. S. Higgins reports a case in the *Medical Record* of a woman seventy-six years old, who is in the enjoyment of good health and menstruates regularly, the flow being preceded by the same kind of feelings that she had when it was first established at the age of eighteen years.

Prof. Ellenberger (*Archiv für Veterinarwissen*) speaks very highly of painting the skin with impermeable applications for parasitic diseases. He has used collodion, tolu in ether, rubber in chloroform, etc. When the part is covered with these mixtures, the parasites, animal and vegetable alike, soon die. He has experimented with dogs and other animals, and finds that they can stand from one half to one third of the body covered in this way.

Electric Brush Battery.—For some years past, parties in the United States have been advertising so-called electric brushes, but it remained for the Am. Electric Brush Co., of Cincinnati, to manufacture a genuine electric brush, fitted up with a complete electric battery on the back. This little instrument, which we have examined and tested, is possessed of wonderful power. It may be used in a variety of cases where electricity is deemed advisable. The cell is composed of carbon and zinc and is charged with a solution of bisulphate of mercury. The coil is supplied with a spring armature, regulated by a platinum-pointed screw, and an adjuster to regulate the force of the current. The price of the instrument to physicians is $4.—*Canada Lancet.*

Athletes.—It is a fact not generally known that the "profession" is divided into two distinct branches, each comprising many "lines" and specialties—gymnasts, those who display feats in mid-air, as trapeze-flying, ceiling-walking, and exercises on lofty bars or rings, and acrobats, who practise tumbling upon or in closer proximity to mother earth. Having mentioned this, to avoid ambiguity in after-descriptions, let us now proceed to trace the athlete's career from its very beginning. An acrobat or gymnast wants a pupil, either to assist in his own tricks, or to educate and farm with an eye to profit in the future. Whatever the object may be, and whatever the line of business into which the young idea is destined to shoot, the trainer looks about him for a boy of seven years old. Seven or eight appears to be the age which all unanimously agree upon as the most suitable for commencement; older children are not considered unfit for the purpose—indeed, some who are now before the public have begun to learn at double that age—but younger are as a rule refused, "because their muscles are not properly fixed yet." If cases of training under seven years exist they are undoubtedly very rare. Nor is there any scientific discrimination required in the selection of a fitting subject. The trainer does not seek for special points of natural aptitude in making his choice of an embryo athlete. Any youth of the appropriate age, provided he be free from bodily ailment or deformity, is regarded as capable of being developed into a Leotard, Blondin, or Grimaldi. If two boys, equal in other respects, were to present themselves as candidates, the smaller or better-looking of the twain might receive preference ; but I could hear of no healthy boy ever proving absolutely unfit for the work.—*Chambers's Journal.*

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MEDICAL NEWS.

THE REGULATION OF PROSTITUTION.—The Municipal Council of Paris has lately addressed a letter to the Prefet, demanding the immediate confiscation of the Lourcine and Midi Hospitals, and the abolition of all the *maisons de tolérance* in the city and the Department. More recently they have voted the suppression of compulsory examination and treatment of women, and the abolition of the *police des mœurs* is under discussion.

DR. BIGELOW, of Boston, has won the highest of the Argenteuil prizes (1200) for a medical treatise sent to the Paris Academy of Medicine.

DR. ALBERT G. CRAIG, Vevay, Indiana, suggests the substitution of linseed oil for olive oil in the composition of liniments. He has found it better, as well as much cheaper.

MERCURIAL DECALCIFICATION.—A remarkable effect of acute poisoning by mercury, in the form of corrosive sublimate, was discovered by Salkowski, and has been confirmed by Prévost and Frutiger, of Geneva, in a very interesting investigation. The effect is the deposition of calcareous salts in the cortical substance of the kidney. The deposits of lime-salts may easily be confounded with deposits of fat. The process commences in the straight tubules, and afterward involves the tubuli contorti, and is sometimes so great that the kidneys appear as if petrified.

CINCHONINE AND QUININE.—It has been recently asserted by M. Laborde that the actions of these two substances are less similar than is commonly asserted, and that we ought not to regard the one as capable of replacing the other. The ultimate effect of poisoning by quinine is convulsion of epileptic character, but in the effect of chinconine the period of convulsion is replaced by one of coma. Nevertheless, at the moment of death convulsions occur also in poisoning by chinchonine, and it is therefore doubtful whether Laborde's facts altogether justify his conclusions. The subject seems to deserve further study.

DR. LAWRENCE WASHINGTON, a great-nephew of General Washington, who served in the late war on the Confederate side, died recently in England, leaving his family poor in money, but rich in relics of the great general. Among these possessions are several letters and interesting documents, the sabre he used in the Revolution, and the silk rep suit he wore at his first inauguration.

THE appointment of General Alexander Shaler as President of the Metropolitan Board of Health was confirmed at the meeting of the Board of Aldermen by a vote of fifteen to nine. Although General Shaler lacks the special knowledge and practical experience of Professor Chandler he will probably fill the position as ably as any one else would who is not a medical man or a skilled sanitarian. The term of office is six years, and the salary $6500 a year. The other members of the Health Board are Dr. Woolsey Johnson, Dr. Smith, health officer of the port, and Mr. Stephen B. French, President of the Board of Police.

YELLOW FEVER deaths have occurred at the ports of Galveston, Texas, and Pensacola, Florida.

CHOLERA is increasing rapidly in Egypt, and is extending westwardly.

DR. J. M. TONER.—The joint committee of the Congressional Library has ordered a bust in marble of this distinguished physician to be placed in the library. This is in recognition of the donation to the library of his extensive and valuable collection of medical and historical works. The bust will be executed by J. Q. A. Ward, the well-known sculptor.—*Louisville Medical News.*

DR. ELLERSLIE WALLACE, whose resignation on account of failing health has been already noticed, was elected Emeritus Professor of Obstetrics and Diseases of Women in the Jefferson Medical College by unanimous vote of the Trustees. He had been engaged in teaching at this school for the last twenty one years.

THE COMMITTEE OF ARRANGEMENTS of the American Medical Association taxed the Association of American Medical Editors twenty dollars for the use of a room in which to hold their meeting one evening.

Two medical schools for women are to be established in the Province of Ontario, one in Toronto and one in Kingston, and the Toronto *Globe* says that in this respect the women of the Province will be better off than they are in the matter of higher education in general.

THE KENTUCKY SCHOOL OF MEDICINE.—At the Twenty-eighth Annual Commencement of this School held at Louisville on June 26th, the degree of M.D. was conferred on fifty candidates. The valedictory address was delivered by Prof. J. M. Matthews.

CHAMPION MORTALITY.—Dr. Meigs, of Philadelphia, is quoted by Prof. Leeds, in the *Sanitarian*, as stating, "that out of every one hundred children put under the care of physicians in the almshouse of Philadelphia, one hundred children die there."

THE ASSOCIATION OF ASYLUM SUPERINTENDENTS.—At the recent meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Newport, Dr. John P. Gray, of Utica, N. Y., was elected president, and Dr. Pliny Earle, of Northampton, Mass., vice-president.

RAISING THE STANDARD.—The Long Island Hospital Medical College graduated a class of fifty-one out of fifty-five candidates.——Dr. William H. Parish performed the Porro-Müller operation for Cæsarean section upon a woman at the Philadelphia Hospital, June 29th. Both mother and child have thus survived.——The new "Michigan Insane Asylum," now in process of construction, has been placed in the hands of the homœopaths.——The building for the hospital of Rush Medical College, Chicago, will be commenced in a few days. The structure will be about forty-five by seventy-eight feet on the ground, and will have four stories above a high basement.——The seventh annual meeting of the American Dermatological Association will be held at Lake George August 29th, 30th, and 31st. ——The third international Otological Congress will be held at Basle during the first week of September, 1884.——The *Southern Practitioner* reports the death, at Nashville, Tennessee, on the 20th ult., of the American Medical College Association.——Charles Heywood Stratton, "Gen. Tom Thumb," the most famous of the little family of liliputians introduced by P. T. Barnum to the sight-seeing world more than forty years ago, died at his late residence in Middleboro, Mass., of apoplexy.——The New York Polyclinic has organized a medical society of its own, composed of members of the faculty and graduates of the institution.——The sculptor, Launt Thompson, is at work upon a bust of Dr. Bigelow, which is to be placed in the new building of the Harvard Medical School.——Dr. Bonarny, in a recent thesis, describes two epidemics of urethritis among soldiers in Africa caused by eating frogs which had fed upon cantharides.

AT THE request of the chief medical officer of the military hospitals of Paris, a regimental band has been detailed to play at each of the three hospitals one day in the week for an hour. It is hoped and believed that the effect of the music will be to hasten the convalescence of the sick soldiers.

TO PREVENT CONCEPTION.—THE Australian *Medical Gazette* gives some of the methods employed by the aborigines of Central Australia to prevent conception. One mode is to make an opening into the male urethra just anterior to the scrotum; another is to slit up the entire urethra, so as to entirely destroy the urethral canal from the scrotum to the base of the glans penis.

HEALTH INJURED BY MERCURY.—George Stickle, of Jersey City, has commenced suit against the Edison Electric Light Company to recover $5000 damages for injuries received while in the company's service. He was for a time engaged in the Edison factory at Harrison. While there he became saturated with mercury. He says that he had no word of caution as to the danger of the material he was obliged to handle, and that when he had lost his health and went to the factory physician for treatment he was given medicine which should not have been prescribed for him. Hence his suit.

A NEW PROFESSOR OF OBSTETRICS AT JEFFERSON COLLEGE.—Dr. Theophilus Parvin, of Indianapolis, who for some years has been a member of the faculty of the University of Louisville, has been elected Professor of Obstetrics and Diseases of Women and Children in the Jefferson Medical College of Philadelphia, succeeding Dr. Ellerslie Wallace.

MR. JAMES V. BLACKWELL, of Holly Grove, Ala., has asked permission to exhibit his little girl, aged three and one half years, at the Kentucky State Fair in Louisville. He says she "has three separate and distinct tongues. The two smaller ones are beneath the main tongue, and are attached to the other one near the root. They are invisible except when she becomes willing to show them."

THE TRI-STATE MEDICAL ASSOCIATION.—The ninth annual meeting wilbe held in Indianapolis, September 18th, 19th, and 20th. The work is all ready far advanced, and the title of each paper should be sent in at once. The reading of each paper must not exceed twenty-five minutes. It is also the rule that each physician who registers must be a member of a local or State society in good repute. All such are invited. Notice of papers or cases to be presented may be sent to the chairman of the committee on programme, Dr. J. L. Thompson, Indianapolis, to the secretary, Dr. G. W. Burton, Mitchell, Ind., or to the president, Dr. William Porter, St. Louis.

EDITORIALS.

This Journal to be a Monthly.—In recognition of the wishes of the subscribers, this journal is restored to its status as a monthly publication, the form in which it appeared for seventeen years. Of course, the proper time for making such a change is that at which a new volume is commenced; and as Volume XXXVI. is begun with the issue for July, 1883, the change desired by so many is made at this time.

It cannot be said that the weekly form is surrendered without editorial regret, but an editor, with nearly eighteen years of practical experience, has learned very little, if he has not learned to recognize, with promptitude, the wishes of those who give and have given to his publication its stability and success.

There are, however, other reasons for this change, which it is proper to place on record and to explain, for the entire satisfaction of those who may not entirely accept, with readiness and pleasure, the monthly in place of the weekly issue of this journal.

There is, at present, among publishers, what may without offence be termed "a craze" for weekly medical journals; there are two in Boston, four in New York, two in Philadelphia, one each in Baltimore, Cincinnati, Chicago, Louisville, St. Louis, and Detroit, and, added to these, there will be the weekly journal of the American Medical Association. Too many, even if the reading members of the profession were doubled.

The objections to a weekly journal are familiar to all. Original papers of such size as to present a subject thoroughly cannot be published. The same fact is true in regard to classic papers, which have appeared at home or abroad; they must be published in serial form, or be omitted. The papers in the review and editorial departments must be prepared with undue haste, and without due care and reflection. Losses by mail are more frequent, and the preservation of numbers for binding is more difficult. Reference to articles is not so easily made. The form, too, of a weekly (the quarto form) is objectionable to many.

It must be admitted that these objections are manifest and unquestionable.

The chief advantage in a weekly is to be found almost exclusively in the "news" department; for it is manifest that every other department loses nothing whatever in value by being issued monthly.

Added to these material reasons, it should be stated that there is no medical monthly in Boston, none in New York, none of large size in Philadelphia, none in Louisville or Cincinnati, only one in Chicago, St. Louis and New Orleans. There are no monthly medical journals, then, in most of the largest cities. There are quite a number of monthly journals issued in the smaller cities, but these journals, costing one, or two, or three dollars yearly, are necessarily small, and, however good, cannot furnish the space necessary for the most valued original and selected papers. Every reader will certainly appreciate these practical reasons.

This journal was last issued as a monthly for December, 1882. It furnished then 100 pages monthly. As a weekly, from January to July, 1883, 112 pages were given every month. The journal is now issued with more matter in every number than has ever been given before. Each issue will contain 120 pages, or 240 more pages every year than have ever been given in seventeen years.

With the earnest hope that the work will receive that valued and valuable support which, for nearly eighteen years, has been so generously extended to it, Volume XXXVI. is herewith earnestly introduced to its supporters and to the profession.

THE FAILURE OF NATIONAL, STATE, AND MUNICIPAL HYGIENE.—Observant physicians cannot but admit that, after all of the efforts of physicians in this country to originate and develop municipal, State and national hygiene, there has been, almost without exception, a mortifying, conspicuous, and discreditable failure.

Prior to the last meeting of the "National Board of Health," there was entertained a serious fear that a quorum could not be obtained. The Board, though, did secure this, and officers were elected for the next year. The Board, however, as it stands, is a greater reflection on the American medical profession, than if it had collapsed and no election had been secured. It reminds one (be it spoken without blasphemy) of the scene in which the Son of Man had a crown of thorns placed upon His head, and a reed for a sceptre placed in His hand. Surely, if that scene before the crucifixion be taken as typical of alleged royalty bereft of all power, it is not more eloquent and impressive, in this respect, than is the present appearance of the "National Board of Health." An organization with grandiloquent title, with magnificent results depicted in antecedent prophecy, and yet bereft, as it is, of all means of power, it presents a spectacle pitiable and melancholy, almost without a precedent.

Doubtless, if one were to analyze the history of this Board, the cause for the present picture might readily be obtained, and in this cause there would not be apparent any action showing impotency or want of value on the part of the Board; the fact yet remains, that after being organized and tried and endowed with all the means asked, it has failed to convince the National Legislature of its efficiency and of the actual necessity for its existence. As a result, it now stands before the nation and the profession as a body crowned with thorns, and with a broken reed for a sceptre in its hands. Why this is so will not be explained or analyzed in this paper; the fact is all that, for the purposes of this paper, will now be stated. The National Board of Health has failed; it is without means, without power, and only nominally in existence.

The State Boards of Health have, as a rule, very little better results to offer. In Louisiana, West Virginia, and Illinois, some good work has been done, and there are strong hopes entertained that what is so far good may be better; but how soon the empty purse may never be refilled, by those who are the judges of the necessity for so doing, who shall say?

Already there are rumors that the Illinois State Board of Health is too "hard" upon the medical colleges, and that "a ring" with money contributions all ready to "control legislation" (to deprive, that is, the Board of Health of money and power) is being formed, and that unless the Board is willing (in the vile slang of the day) to "let up on the colleges," its days of money power are numbered.

The Louisiana State Board of Health has unquestionably done much to cripple the National Board of Health in its efficiency, and while this is not the time or the place for entering into a discussion of the merits of this question, it is at least safe to say that there has been displayed, on the part of both of these Boards, a great deal of foolish jealousy, disreputable wrangling, and, as a result, melancholy inefficiency; that the National Board of Health was by so much injured in respect and confidence, and that the State Board has been injured to an almost equal degree. It would have been better to so compromise judiciously all questions of jurisdiction, as to have done promptly and without contention the work that was to be done. The Louisiana State Board, so far, has money, and is doing its best, and all wish it success; while the National Board, though *in esse* alive, is *in posse* almost defunct.

The West Virginia Board has, so far, secured and maintained public respect and confidence, and, if it continues in its well-doing, will form historically an honorable exception to the "Board of Health Records" now before the public.

The New York State Board of Health is a species of peripatetic impotency and absurdity. It meets every now and then; "resolves" that alluvial deposits should be "looked after;" that the gases of animal and vegetable decaying matter are not as pleasant as some things that might be mentioned, if it were challenged to give its experience in this respect; that somebody's mill-pond, or some section of a canal might be in a better condition than it is; and then adjourns, but to meet somewhere else, to declare platitudes, to listen to foolish essays, to "resolve" that something has been done that ought not to have been done, or, that something has not been done that might have been done, and, as a result, the Board of Health is, at present, in an exalted condition of fussiness and inefficiency.

As to the Kentucky Board of Health, who can find the language wherewith to define its utter helplessness and worthlessness? The medical press of that State drummed upon its cranium vigorously and often, and it did succeed in awakening the Body, but it has gone to sleep again; hibernating, thus unfairly, and with a certain degree of originality, both in summer and winter.

As to the rest of the State Boards, with an exception in regard to that of Michigan, they are all busily showing to their respective States "how not to do it;" showing to laymen that doctors, after all their "talk" in regard to hygiene and State medicine, etc., are, when formed into "Boards of Health," utterly unable to do anything more than to read essays and publish long columns of statistics. They do nothing, change nothing, and accomplish nothing; and yet when "the appropriation" is cut off, they seem surprised at the "want of appreciation on the part of the Legislatures and of the people!"

As to city Boards of Health, they are not only, as a rule, worthless, but ridiculous. They are controlled by aldermen, and that is saying they are managed by liquor dealers, by ward politicians, and by the ignorant and besotted classes of municipal populations. The great city of New York was an exception, but she has succumbed to the lords of the beer and whiskey barrel. Her mayor, who, by simply refusing to nominate any one but a competent man, could have held a competent man in office, has yielded to the corruption, the demoralization and venality which appertain so absolutely to the politicians of whiskey antecedents and beer powers and proclivities. *Ex uno disce omnes.* What is true of this unfortunate city is true of all of them. They are in the hands of the Philistines.

What is the cause of this stupendous series of failures in this country;

these uniform failures on the part of the medical profession to furnish such teaching, and, above all, such results, as will convince legislators, national, State, and municipal, of the practical value of hygienic science as applied to the sanitation of the people? It has not been so in England, in France, in Germany, or even in Sweden. In those countries, legislators give money and power freely and gladly to the representatives of sanitary science. Are the members of the profession in those countries better able to teach the people? better able to convince them of the necessity and value of sanitation, domestic, riparian, and munipical? Or are the people there better able to receive and understand such instruction from the representatives of sanitary science? No reader of these lines will admit that the teachers abroad are better, or that their audiences are more competent to receive instruction. This being so, and it certainly is so, what is the cause of the almost complete failure of the Boards of Health in this country?

It may be safely said that there never was a people more glad and more competent to receive instruction than is the American people; more thankful for good and sound information; and more ready to give money and power to those who are able to make them better, and healthier, and stronger, and, therefore, more prosperous and more powerful. *It is not the fault of the people, most certainly.* It is the fault of the medical profession. The methods used by it have been defective and faulty; insufficient and inadequate.

This people can be taught as well as any people living. It is a reading nation. The newspaper is in almost every hand, certainly in every household. Literature is sold for a song. Lecture rooms are furnished almost gratuitously. The pulpit is more and more didactic every year. No people were ever better taught and more willing to learn, and more generous with power and the purse. But they must be taught before they will act, and the medical profession has not taught, and does not teach them. Those who essay popular teaching among the profession are wrongfully suspected, their motives are denounced and never applauded; they are bulletined on every occasion as demagogues and seekers after practice! And the result is before all. The people know next to nothing of what the medical profession can and should teach them. And until this is done, Boards of Health will fail as continuously as they have done.

The profession must teach the people what they are waiting and glad to learn, and this being done, the people will give such ample power and means to Boards of Health as will make them blessings, and not have them, as they are, Bodies crowned with thorns, and each having for a sceptre a broken reed in its hands.

THE SURGEON-GENERAL'S LIBRARY IN WASHINGTON.—The *Sanitary Engineer* prints a very interesting account of the library of the Surgeon-General's office of the United States Army, obtained from a conversation of one of their reporters with the librarian, Dr. J. S. Billings. This now famous collection of books had its origin in a small collection in the office of the Surgeon-General, which was probably commenced by Surgeon-General Loball, about 1830. At the beginning of the late war this collection consisted of about 350 volumes, mostly medical text-books and journals. In 1862 and 1863, while Dr. Hammond was Surgeon-General, about 360 volumes were added, being chiefly works relating to military medicine and surgery. A catalogue, published in the autumn of 1865, shows that the library then contained about 1800 volumes. The catalogue of 1872 placed the number of volumes at 13,000, which chiefly related to military hygiene, medicine, and surgery, to public hygiene and medical statistics. In 1874, there were 25,000 volumes and 15,000 single pamphlets catalogued, and since that date the growth has been uninterrupted and progressive, and at the present time the library contains 60,000 volumes and 66,000 pamphlets. Authorities now regard the library a better practical reference and working collection for medical purposes than the great library in the British Museum, or the Bibliothèque Nationale in Paris.

CHOLERA.—This disease is now prevailing with increasing severity in Egypt, and is slowly advancing westward. Pasteur proposes to investigate its special nature. He is an authority regarding many morbific bacteria, and none of his researches has been more successful than that upon chicken cholera. This, he has discovered, can be prevented by inoculation, upon the analogy of vaccination. Should he make a similar discovery regarding human cholera, the disease may be stamped out, as small-pox has been. In no other way can the disease be attacked. Cholera is born of a neglect of the decencies of life, but any attempt at compulsory reform is prevented by Hindu prejudices. Pasteur's is, of course, not the first attempt to solve the mystery of cholera. One of the most audacious came to a sudden and unprofitable end. Obermeir, an assistant of Virchow, actually injected cholera blood into his arm. Within six hours he died while examining his own blood with a microscope.

SPURIOUS MEDICAL COLLEGES.—Physicians ought to be carefully informed as to the existence of every spurious medical college. *The Record* says: "The College of Physicians and Surgeons, of Buffalo, known also as the Mohawk College and the College of Rational Medicine, which tried to get a charter from the Legislature last winter and failed, its true character being shown up, has recently become involved in a legal complication. It has prepared about twenty young men for graduation, but at last an injunction was secured from Judge Haight forbidding the college to issue certificates or diplomas as a legally incorporated college of medicine and surgery. The college claims legal incorporation under the laws of 1882, and the question whether this claim is well founded will be argued in court, probably in September. Until that time no further action will be taken. It will be remembered that this college stands on about the same footing as the U. S. Medical College of this city."

HEREDITARY TALENT.—It has always been an interesting question among physicians how far and to what extent talent of any kind is transmitted to posterity. To what position talent in an executioner is to be assigned has never yet been determined, and the grade of moral excellence to be accorded to him who strangles, or breaks the necks of, the condemned has so far never been settled. The testimony of an executioner is, therefore, a matter of psychological interest, and that he should regard himself as morally and socially above the modern policeman is certainly remarkable. So remarkable, indeed, that all interested in the social grade of policemen, or in their temporary or eternal welfare, cannot but read the executioner's testimony with interest and profit.

When Marwood, the English executioner, was about to leave Ireland, a few weeks ago, one of the policemen who accompanied him as a protector began to joke with him about his profession. Marwood bore the attacks very calmly for a while, and when asked if he had a son, replied quietly that he had, whereupon he was asked if he intended to put him into his own line of business. "Well," said Marwood, with a keen look and a sly twinkle in his eyes, "If he's a good boy I will; but if he turns out to be a blackguard, I'll make a policeman of him."

OPIUM AND NARCOTIC SELLING.—Every one, professional or layman, in every community is satisfied that the time has come for the enactment of a law forbidding the refilling of narcotic prescriptions, by retail druggists. The following item will therefore be read with interest:

A druggist in Paris has been condemned to a week's imprisonment and 2000 francs damages for repeated sales of morphine to a lady, amounting in seventeen months to 693 grammes. His customer at first presented the medical prescription, without which no poisonous drug can legally be supplied, and on her second purchase produced the same prescription, but after this she went constantly to the shop without bringing any prescription, and she is now in a lunatic asylum. The husband then took legal proceedings, and has recovered damages.

DISSECTION LAWS AND COUNTY COMMISSIONERS.—For ten years Illinois has had a liberal law regarding material for dissections. For several years the unclaimed bodies of known paupers dying in the hospitals for such cases have been given to the colleges for dissection in accordance with the clear provisions of the law. But the law says such bodies *may*—not *shall*—be turned over to the colleges, so now the Board of County Commissioners have voted that no more bodies shall be given to the colleges, but that all shall be buried at the county expense, and they have bought horses and wagons and hired men to do this work. All this because the last county undertaker was guilty of illegal practices.

FRENCH FLATS.—Are French flats healthy? Yes, very. Are people in them healthy. No. Why? They have to starve and go half naked to pay the rent. Why are these flats called French flats? To distinguish them from American flats. What are American flats? The people who live in French flats.—*Life.*

THE TAX UPON PATENT MEDICINE ceased on July 1st. All that went into the hands of the Government will now enrich the owners, and they will now be able to pay their religious weekly supporters with increased liberality.

CINCINNATI ANATOMY.—The anatomical knowledge and ingenuity of the Cincinnati physicians are remarkable. The *Lancet* and *Clinic* tells of one whose only difficulty in passing the female catheter was in its hitching against the prostate gland. He has set himself to work to invent an instrument which will overcome this difficulty, and the profession will anxiously await this "long-felt want."—*Age.*

ADDITIONAL DEPARTMENTS.—The readers of this Journal will, it is believed, value very much the three new and additional departments that have been introduced with this number, viz., the department of "Pharmacy and Therapeutics," that of "Sanitation," and the "Résumé of Original Articles from other Journals."

EXPLANATION.—This number would have been issued a week earlier, but it was discovered, at the last moment, that the number contained only the former number of pages, 100, and not 120 pages, as each number of the journal will contain.

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TO THE MEDICAL PROFESSION.

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Certificate of Composition and Properties of Lactopeptine by Prof. ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Prof. of Practical Chem. to the Pharmaceutical Society of Great Britain.

LONDON, May 3, 1882.

Lactopeptine having been prescribed for some of my friends during the past five years—apparently with very satisfactory results—its formula, which is stated on the bottles, and its general characters, have become well known to me. But recently, the manufacturer of this article has asked me to witness its preparation on a large scale, to take samples of its ingredients from large bulks and examine them, and also mix them myself, and to prepare *Lactopeptine* from ingredients made under my own direction, doing all this with the object of certifying that *Lactopeptine* is what its maker professes it to be, and that its ingredients are in quality the best that can be obtained. This I have done and I now report that the almost inodorous and tasteless pulverulent substance termed *Lactopeptine* is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, *Lactopeptine* is a skillfully prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of acids that are always present in the healthy stomach; all begin to be disseminated in an appropriate vehicle, namely, powdered sugar of milk. To acids used at the factory—lactic and hydrochloric—are the best to be met with and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase" or starch-digesting (bread-, potato-, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredients, are as good as any I can prepare; while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards the chief ingredient, pepsin, I have only met with one European or American specimen equal to that made and used by the manufacturer of *Lactopeptine*. A perfectly parallel series of experiments showed that any given weight of acidified pepsin, alone at first acts somewhat more rapidly than *Lactopeptine* containing the same weight of the same pepsin. Sooner or later, however, the action of the *Lactopeptine* overtakes and outstrips that of pepsin alone, due, no doubt to the meat-digesting as well as the fat digesting powder of the pancreatin contained in the *Lactopeptine*. My conclusion is that *Lactopeptine* is a most valuable digesting agent, and superior to pepsin alone.

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Scientia et Veritas Sine Timore.

Vol. XXXVI. NEW YORK, AUGUST, 1883. No. 2.

ORIGINAL ARTICLES.

Article I.—A Critical Review of Chloral. By Dr. Ernest Labbé, Paris, France.

A few years ago the substance whose history we propose sketching was known only to chemists. Discovered in 1832 by Liebig, investigated at a later period by Dumas, who first determined its formula, it remained for thirty-seven years in the domain of pure science, buried in that immense storehouse of organic compounds which, from time to time, furnishes the physician with such valuable agents. No therapeutical application of chloral was then known; it had but an abstract importance, augmented perhaps by the support of the distinguished names connected with its discovery. Now it has gained notoriety, the art of therapeutics claims it, and it is lauded by certain enthusiasts as a marvellous acquisition. But whatever may be its future, and without concerning ourselves with a premature judgment of it, we shall study the origin and chemical properties of chloral, its physiological action, and its most clearly proved therapeutical applications.

A. CHEMISTRY OF CHLORAL.

The chemical properties of chloral have long been thoroughly determined; nothing has recently been added to the manner of investigating them except some minor improvements. The mode of preparation has been revised, and efforts have been directed to the production in a state of absolute purity of this reagent, now become a medicine which ceases to be active when it is impure.

* * * * * * *

The name of *chloral* indicates its derivation from chlorine and alcohol; these two bodies, in reacting on each other, give rise to several products, among which is chloral. Two processes for bringing about this reaction are known, that of Liebig and Dumas, and a second proposed by Staedeler. In the first, absolute alcohol is treated directly with chlorine gas, and at the end of a certain time an oleaginous liquid is obtained, which is collected for redistillation over sulphuric acid several times in succession. The second process, that of Staedeler, is less employed—it is very complex.

* * * * * * *

Chloral obtained by either of these processes is a colorless liquid of a penetrating, disagreeable and suffocating odor, like chloroform extremely volatile, and of the density of 1.518. Water, alcohol and ether dissolve it with elevation of temperature. Its formula is (according to Dumas) $C^4H^4Cl^3O$; according to Gerhardt, $C^4Cl^3O^2H$. The latter, it will be perceived, is the formula of aldehyde, $C^4H^4O^2$, with this difference, that three atoms of chlorine replace three of hydrogen, whence the name of trichlorated aldehyde formerly given to chloral. Its avidity for water is very remarkable ; a combination of the two bodies takes place, from which results hydrated chloral, or the hydrate of chloral. This latter substance will occupy our attention exclusively in this article.

* * * * * * *

Hydrate of chloral is a white substance, in needle-shaped crystals, of an acrid and pungent taste when swallowed, and a peculiar odor, somewhat resembling that of an over-ripe melon. It is volatile like camphor (Dumas), in consequence of which the sides of bottles containing it are covered with numerous crystals. Its solubility in water is very great, and the act of solution is accompanied with evolution of heat. The aqueous solution readily undergoes change, algæ being, after a time, developed in it ; whence the indication, that when needed in practice, it should not be prepared long beforehand. Ether dissolves hydrate of chloral, and Richardson * has availed himself of this property to administer the hydrate by inhalation.

Other solvents of chloral are the sulphuret of carbon, alcohol, fats, etc. Its reaction is neutral ; it has no action on the salts of silver, and, like glucose and chloroform, reduces Trommer's cupro-potassic solution.† Its formula is $C^4HCl^3O^2$, 2 HO, and it is composed, according to Dumas, of one volume of anhydrous chloral and one volume of the vapor of water. Personne gives the proportions as follows : Anhydrous chloral, 90 parts ; water, 10 parts=100.

* * * * * * *

I have not as yet spoken of the interesting fact, peculiar to chloral, whatever its form, which has become the starting-point for therapeutical experiment ; I allude to its transformation into chloroform under the influence of alkalies. Given the two formulæ, $C^4Cl^3O^2H$ (chloral), and C^2Cl^3H (chloroform), it is easy to see that the first contains the second, or, in other words, that chloral may, by decomposition, give rise to chloroform. This fact is easily verified ; if we drop into a strong alkaline liquid a pinch of powdered chloral, the odor of chloroform becomes almost immediately evident, and we see at the bottom of the test-tube a few oily drops of the same substance. Chemists agree in saying that this is the means "par excellence" of preparing chloroform in a state of absolute purity. . . .

The blood, in consequence of its alkalinity, causes chloral to undergo this same retrogression, and we may readily satisfy ourselves on this point by shaking the two substances together in a vial ; the odor of chloroform will after a while be given off. Richardson, operating in this manner, was able to collect by distillation a certain quantity of chloroform.

Oscar Liebreich, well known by his works on Protagon, which he discovered, conceived the ingenious idea of seeking out whether this decomposition of chloral might not take place in the animal economy ; his aim being to demonstrate the reaction referred to by the chloroformic intoxication which would result from the appearance of chloroform in the blood. We shall discuss this theory farther on, but whether it be true or false, we are indebted to it for chloral, and on this score it should be regarded as most felicitous. The German chemist experimented with chloral both on animals and on man, he ascertained its remarkable effects, and on June 2d, 1869, he communicated to the Academy of Berlin the result of his researches. Soon afterward, August 16th, he addressed a note to the Institute of France, in which he again asserted the singular properties of the hydrate of chloral. The experiments of Liebreich were repeated on all sides ; notes and communications to learned societies multiplied rapidly ; chloral came honorably forth from all the trials to which it was subjected, and was soon ranked among the best therapeutical agents. Our present task is to exhibit the actual state of the question, assisting ourselves with the materials elaborated by our predecessors, and making use of our own experiments performed under the direction of a distinguished master, Professor Gubler, who was kind enough to guide us in the difficult task of experimentation. We shall examine separately all the properties of the hydrate of chloral, the only one of the three forms of trichlorated aldehyde employed in practice.

---

* Med. Times and Gazette, 1869, p. 290.

† Gubler, Com. Or., October, 1869.

* * * * * * *

B. PHYSIOLOGICAL PROPERTIES OF CHLORAL.

1. *Chloral as a Hypnotic.*—This is an unquestioned fact in the history of chloral, and one of capital importance ; it is a powerful soporific, rapidly producing a sleep almost physiological in character, without preliminary excitement as in the case of chloroform, and without the disagreeable or untoward consequences which result from the use of ordinary narcotics. This rule is not without exceptions ; thus, sleep is not procured in every case, and sometimes on awaking there have been observed such accidents as intoxication, excitement, and sensorial or other hallucinations. Comparisons have not been wanting between the narcosis of chloral and that of opium, and the preponderance of opinion has not always been in favor of the latter. The following phenomena are observed in sleep from chloral : The first period is that of ordinary slumber ; there is muscular relaxation, narrowing of the palpebral opening, and gradual loss both of consciousness of external objects, as also of special sense ; then comes the second period, that of sleep, properly so called. This last is generally not very profound ; the least disturbance interferes with it momentarily, but as soon as the latter ceases the former is renewed. A few facts will suffice to mark this phenomenon ; I borrow them from the different authors who have studied this question.

Experiments upon Animals.—According to Liebreich, 0 gr., 625 (9½ grains) of hydrate of chloral suffice to put a frog to sleep for more than half an hour ; 1 gr., 1 gr. 80 (15 to 27 grains) given to rabbits narcotizes them during several hours. Richardson obtained the same hypnotic effects in other animals, pigeons, mice, and even fish. . . .

Experiments upon Man.— . . . The following are a few observations taken from Liebreich's works : I choose them from among the best described cases.

An epileptic, 42 years old, tormented by delirious fancies with habitual insomnia, took 1 gr., 35 (20 grains) of hydrated chloral ; in ten minutes he fell into a sleep which lasted three hours. The same dose in a case of general paralysis made the patient sleep half an hour. An idiot suffering from hallucinations received at a single dose 1 gr., 58 (25 grains) ; in half an hour sleep supervened and lasted three hours. The author adds that, in these three cases, the sleep was normal, and did not differ from physiological sleep.

A patient with general paralysis, with paroxysms of violent excitement, was not in the slightest degree calmed by morphine in doses of 0 gr., 25 (about 4 grains). He took 3 gr., 50 (54 grains) of the hydrate at a single dose; twenty-two minutes afterward he was in a calm sleep which lasted three hours.

It would be superfluous to multiply these quotations; the different authors who have investigated the subject of chloral have arrived at an analysis of their observations at certain conclusions which I shall present; they are more valuable than a mere narration.

Demarquay * states that the hypnotic action is more intense and lasts longer in proportion to the enfeebled condition of the patient. He adds that sleep is most frequently calm, but that some patients have dreams and hallucinations. With children, Bouchut † always procured sleep very readily by the employment of chloral; he regards it as an excellent narcotic. This is also the opinion of Richardson,‡ Spencer Wells,§ Giraldés,‖ Worms, ¶ etc. Unfortunately although narcosis may be obtained in most cases with cholera, it is not constantly so; we cannot unfailingly induce it. Demarquay gives a table of 14 successes in 20 cases, and other authors have seen smaller proportions, whence we have a right to conclude, that under some circumstances the hypnotic action of chloral is uncertain; an uncertainty, however, which it shares with all known narcotics.

Is this saying that we must regard the hypnotic properties of chloral as doubtful? Not at all. I believe in this property. I will willingly go so far as to say, that chloral should always cause sleep, and I offer as proof the experiments made upon animals. I explain these failures in man by the fact that the drug was used in cases of agrypnia, in morbid insomnia, a complex condition, which can only be effectually combated by means of remedies varying according to the case. Give to a man in good health a sufficient dose of chloral and he will go to sleep. Agrypnia will not always yield to chloral, any more than it yields to opium, to the bromide of potassium in every case in which these narcotics are empirically employed. When chloral shall be given in those conditions of fitness and opportuneness which as yet escape us, but with which we shall doubtless ultimately become acquainted, success will always follow its administration.

It seems to result from the analysis which we have made of the observations reported by different authors, that chloral acts principally when agrypnia is accompanied by cerebral hyperæmia (general paralysis, acute alcoholism, etc.); I cannot, however, urge this as an indication for its use, since we have but meagre information as to the vaso-motor action of chloral. We need new experiments to demonstrate to us that it augments vascular tension, for then only shall we be authorized to say that it ought to be prescribed in the sleeplessness which is accompanied by symptoms of congestion in the region of the brain.

What is the theory as to the hypnotic action of chloral? None has as yet been proved, and I mention this gap, which can only be filled by direct experimentation, for I cannot admit that chloral, simply because it induces sleep, produces anæmia of the brain, in accordance with the modern theory of sleep, so brilliantly supported by E. Durham,** Hammond,†† Gueneau de Mussy,‡‡ and C. Bernard.§§ Such a conclusion does not suffice us; we can do better than that by going straight to the goal we seek, by examining the brain exposed to view during sleep from chloral, and determining its vascular condition. We should thus solve the only portion of the problem which is, they say, accessible to our means of investigation; the other, the most interesting to be known, will escape us, if not always, at least for a very long while; I allude to modifications of the brain-matter itself, which result from sleep.

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* Acad. des Sciences, September 20th, 1869.

† Ibid., November 2d, 1869.

‡ Med. Times and Gazette, 1869.

§ Ibid.

‖ Soc. Chir., October 13th, 1869

¶ Gaz. des Hôpitaux, p. 486.

** Guy's Hospital Reps., 3d Series.

†† "On Wakefulness," Philadelphia.

‡‡ Leçon's Clin., Union Med., 1866. Fernet.

§§ V. Leçon's Coll. Fr., January 29th, 1860.

To resume, hydrate of chloral is a powerful hypnotic, promptly bringing on sleep, maintaining it, often profound in character, during several hours, but not always acting in insomnia, because the latter presents very diverse forms, upon which the medicine cannot invariably mould its action.

2d. Chloral as an Anæsthetic.—Rather an ambitious title, since this property of chloral is not universally admitted. And why this divergence of opinion? I attribute it to the dissimilar conditions under which the experiments were made. It results nevertheless from the facts reported by Liebreich, Richardson, Krishaber and Dieulafoy, Labbé and Goujon, that in animals anæthesia from chloral is real and constant, when medium or strong doses are administered. Demarquay, however, far from having witnessed anæthesia in rabbits, describes a certain degree of hyperæsthesia; Richardson has also noted this latter circumstance in one case, and I have likewise observed it in rabbits, but the hyperæsthesia existed in the ears of the victims.

Can we draw conclusions from animal to man, and admit in the latter anæsthesia from chloral? I willingly place myself on the affirmative side, on the condition that the question be limited to man in good health. It is, in fact, important to distinguish between anæsthesia and analgesia; the former term being applicable to the loss of the normal functions of the nerves; the latter designating the sedation of phenomena of exalted sensation. The following simile will perhaps better express my meaning: I establish a scale of sensitiveness, placing the normal condition at zero; below zero we shall have anæsthesia, above it hyperæsthesia, and by lowering the latter we shall produce analgesia.

All anæsthetic medicines may, indeed, more or less, deaden normal sensitiveness, but they are far from being always efficacious against morbid sensibility. The reason is, that the latter does not always occur in a simple form; most frequently it is complicated with other accidents; hence it no longer suffices to act only upon the nervous element of the disease, but we must necessarily guard against other disorders occurring principally in the circulatory apparatus. The old axiom, "Ubi dolor, ibi fluxus" (*sic*) is not constantly true; for under some circumstances we observe an opposite condition of the vessels, which is no longer congestion, but anæmia from constriction of the smaller vessels, whose fibres are in a state of contraction. We do not lack therapeutical proofs for the establishment of this theory, and as instances I may mention the successful employment of opium, of heat, and of certain electric currents, in a large number of painful affections, which we fail to soothe, and which we even exasperate by sulphate of quinine, bromide of potassium, and cold which generally pass as means of relieving congestion.

The conclusion to be drawn from this is, that we must not content ourselves, under penalties of frequent failures, with combating pain by means of a medicine reputed anæsthetic, and selected at hap-hazard; it behooves us to make a choice, and to study certain peculiarities which surround these morbid acts, and I speak especially of those most easily laid hold of, the vascular phenomena, in order to oppose them with an assemblage of antagonistic medical properties, capable of successfully combating hyperæsthesia, for instance, and the circulatory disorders which accompany it.

This being established, I resume the consideration of the anæsthetic action of chloral, by saying that it appears to me to be incontestable, and that, if many physicians have not been able to assure themselves of its existence, it is because they have prescribed it in very complex painful conditions, when it was not sufficiently indicated. Opium, which is an anodyne of the first order, is far from always succeeding, and yet no one denies its analgesic qualities.

What is the theory of chloralic anæsthesia? But little attention has been paid to it. Many authors admitting the transformation of chloral into chloroform, attribute to the latter the effect produced upon the nerves of sensation and the centres of perception. If their views be adopted, we must bring into the discussion the mode of action of chloroform, so well studied out, and that somewhat recently, by C. Bernard. As we know, this distinguished physiologist has demonstrated by very ingenious experiments,* the elective action of chloroform upon the sensorial element of the spinal marrow. Moreover, by tracing the progress of anæsthesia, he shows that sensation disappears first from the peripheric extremities of the nerves, then from their trunks, and lastly from the centres; finally, he has discovered a new and quite surprising fact—viz., that the brain has an anæsthetic action on the medulla by its influence over that organ.

Are these the properties of chloral? I trust that they may be, but no one has as yet shown them to be so. When it shall have been submitted to the same experimental proofs as its congener, then only shall we have a right to say, that these two anæsthetics act in the same manner upon the sensitive portion of the nervous system. To plead the transformation of chloral into chloroform, and to draw thence a theory as to its anæsthetic properties, is to build upon a hypothesis.

3*d*. *Effects of Chloral upon the Circulation.*—Hydrate of chloral is endowed with a most marked action upon the circulation. Thus, fifteen centigrammes of this substance will, in a few minutes, stop the heart of a frog in the act of diastole, the organ is then of a dark, bluish color, its auricles are much distended, and its general dimensions almost doubled. The following is an experiment, which allows us to examine the circulatory disorders produced by chloral. An active frog is arranged in such a manner that the circulation in the interdigital membrane may be conveniently studied with the microscope; then fifteen or twenty centigrammes (two or three grains) of chloral, dissolved in a little water, are injected beneath the skin of the animal's back. At first the capillary circulation does not seem to be troubled, the blood globules passing beneath the eye with enormous rapidity, but erelong their speed is diminished; the smaller capillaries become obstructed, the current of blood is turned aside to travel by wider channels, which, in their turn, are closed, for the globules are crowded into them in the shape of oscillating columns, marking out the net-work more and more distinctly. Gradually the blood stagnates, the arterioles of large calibre become impermeable, and then all movement definitely ceases.

In rabbits, two or three grammes (thirty to forty-five grs.) of chloral are needed to stop the heart in diastole. Goujon and Labbé, on injecting two grammes (thirty grs.) into the jugular of a dog, saw the animal fall, as if struck by lightning; its heart beat tumultuously, but quiet was soon restored, and the normal rhythm reappeared. This unique case reminds one of what happens after the administration of large doses of chloroform.

The following vascular lesions are met with after poisoning by chloral: The brain is congested, the sinues of the dura mater are engorged with black blood, and a fine injection covers the membranes of the cerebrospinal axis. There is a similar hyperæmia of the abdominal viscera (Richardson, Demarquay), and of the trachea. Richardson has seen the muscles very red, and full of blood of a dark color. Lastly, the mucous membrane of the stomach has been found by him much congested, but without any other apparent alterations.

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* Cl. Bernard, Leç. Coll. Fr., January 29th, 1869, subsequent.

As far as I know, no researches have been made, directly at least, as to the effects of chloral upon vascular tension. Some observers, Naucias, of Venice,* and Bouchut have collected a few sphygmographic sketches from chloralized patients, but their conclusions are opposed to each other. The Italian physician found the tension normal, while the physician of the Children's Hospital observed an increased tension with augmentation in the number of arterial pulsations (80 to 120). This last result, which does not exactly agree with the law laid down by Marey (and which itself is, I admit, not always true), being unique, cannot mislead us. I may mention also the adverse experiments of Demarquay, who has seen in rabbits phenomena of congestion, which he compares to the hyperæmia consequent upon section of the great sympathetic, according to Bernard's method. Goujon and Labbé have remarked an opposite effect in a chloralized rabbit; the ear was found pale and cold; and I have seen the same occurrence, after a subcutaneous injection of a very small quantity of hydrate. Liebreich and Demarquay assert that in man small doses do not disturb the pulse.

To resume, large doses retard the action of the heart, and afterward arrest it in diastole; the organ is, moreover, the "ultimum moriens." During a long time, says Richardson, it has an imperceptible action, which keeps the animals in a state of apparent death, and which explains their restoration to life, even when it was thought that death had really occurred.

How shall we explain the action of chloral on the heart? Is it a case of paralysis of the muscle itself, or ought we to refer stoppage or its retarded movements to an alteration of the heart's centre of innervation, situated in the bulb? The first hypothesis is by no means tenable; for after the stoppage of the organ all kinds of mechanical excitement arouse its irritability momentarily. Liebreich, and a majority of writers, admit that chloral acts upon the innervation of the heart, which it abolishes.

The following is one of the experiments performed by me, to satisfy myself of the indirect action of chloral upon the muscle of the heart: I exposed the heart of a frog, and placed some finely powdered chloral upon the ventricle. Its color became brighter, and then its pulsations dropped from 60 to 24, but I could not obtain a lower figure, the organ regained the ascendency. Afterward I only succeeded in stopping it by means of enormous and repeated doses, which then acted mechanically. Chloral then has no local action. In a second experiment on a frog, in which the bulb had been divided, the stoppage of the heart by chloral was only very gradually obtained. It is true that the circulation was less active, and the absorption of the drug less prompt, but the experiment is nevertheless of some value; for while the cardiac pulsations are arrested at the end of five or six minutes in a frog in which the bulb is uninjured, they may be seen to persist for more than an hour after section of the bulb in a frog to which the same dose of chloral had been given. Perhaps a more conclusive experiment would be to cut the tenth part, or to paralyze its peripheric extremities by means of woorari, and then to notice the action of chloral; we should thus find out if it be less prompt than under ordinary circumstances. The action of chloral on the bulb seems to me, therefore, probable, and secondarily the pneumo-gastric, its cardiac branches, and the intra-cardiac ganglia are involved.

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* Acad. des Sciences, November 13th, 1869.

Has chloral any action on the blood? Richardson admits it, and has described changes in the globules, which become jagged, as also the loss of its coagulability, or its attenuation; arterial and venous blood preserve their respective colors, but it is nevertheless easy to see, that after poisoning by chloral, the blood is always blackish.

4*th. Effects upon Temperature.*—These are very evident, and manifest themselves sometimes in animals by a fall of more than two degrees (centigrade), even after doses which are not poisonous. In man, during sleep from chloral, the skin is often felt to be cool, and slight chills are not unfrequently observed during the period preceding sleep. Richardson has noted in rabbits and dogs a fall of five, six, and even seven degrees Fahrenheit. He was doubtful whether this lowering of the temperature was not due to relaxation of the inspiratory muscles, or even to a diminution of respiratory power. He has not solved the problem, but he has confirmed the direct relation between diminished respiration and decrease of animal heat. In a feeble dose, chloral acts but slightly upon the temperature (Demarquay). In man, if this thermometric decrease be measured, it is found that there is a loss of but some tenths of a degree, and that subsequently there is even a slight increase of heat. The maximum of decrease in children was, according to Bouchut, 1°2 (cent. 2°1, Fahr.).

Labbé and Goujon explain the fall in temperature by the fact of sleep itself, but this explanation is not quite satisfactory, since it is quite rare that we find a difference of a whole degree between the temperature of sleep and that of waking, and at any rate we cannot adopt this opinion, when we know that there has been a diminution of two degrees, as I have seen in a rabbit, which survived the experiment. I should more willingly admit that the derangements of respiration and of hæmatosis interfere with the chemical processes taking place in the body, and consequently with the production of heat. Jeannot Schienesson* has shown that chloroform lowers the temperature by lessening the mechanical labor of the heart, and organic combustion, and I do not doubt that this explanation is applicable to chloral, inasmuch as it has a more manifest action upon the temperature than chloroform.

5*th. Effects upon Respiration.*—In small doses chloral retards respiration; in a larger dose it interferes with its rhythm, and makes it irregular and jerking; in an excessive dose the interference becomes more marked, until finally cessation occurs. In man, therapeutical doses diminish the number and extent of the respiratory movements (Liebreich, Demarquay, Richardson).

Autopsies of animals poisoned by this drug have not revealed any very marked pulmonary lesions. Demarquay has seen the broncho-pulmonary mucous membrane in a state of hyperæmia. Liebreich mentions emphysema and atelectasis; Richardson, paleness of the pulmonary parenchyma.

In view of these physiological facts, we must needs seek for a theory as to their production; or, in other words, endeavor to penetrate farther into the essential nature of the action which chloral has upon respiration. We have seen that it does not interfere with muscular contractility or nervous conduction, so that we cannot explain the disorders of respiration by a paralytic condition of the respiratory muscles, due to lesion of the muscular fibre, or of the peripheric portion of the nerves. It is absolutely necessary to appeal to its action upon the nervous centres; and, unfortunately, we cannot demonstrate this directly but are led to it by induction alone. In fact, in chloralism we witness a gradual suppression of the nervous functions, just as completely as if we removed one by one each of the corresponding divisions of nerve-substance ; the centres of respiration and circulation being the last to be affected. We are of the opinion then that the disorders of respiration are connected with changes in the bulb, and if it be urged that they are due to enfeeblement of the heart's action, I reply to the objection by the following experiment: A little powdered chloral is dropped upon a frog's heart, and a diminution in its velocity is not long in occurring, but the respiratory movements continue, and sometimes even become more frequent. Indirect action is not then admissible ; the effects produced upon the bulb should alone be advocated.

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* Archiv. der Heilkunde, Bd. I., II., III. Helf, 69.

6*th. The Action of Chloral upon the Muscular System.*—Chloral acts powerfully in producing muscular relaxation ; even in small medicinal doses this effect is produced, but in such cases the relaxation is nothing more than what we usually observe during sleep. In a full dose the diminution of muscular power is so great, that the respiratory as well as the reflex movements cease. Landrin* has confirmed this statement by experiments on dogs with doses of from one to six grammes (15 to 80 grains). Does this loss of power bear likewise upon the muscles of organic life? Richardson is of this opinion, since the muscles of the iris and of vessels are quite rapidly paralyzed.

What is the cause of this depression of muscular power? Richardson adduces in explanation an alteration of structure, since he has seen the muscles gorged with dark blood, and this stasis of the blood would interfere with the function of the part. In fact chloral does, to a certain extent, produce an impression upon the striped fibre. I have often remarked an early and considerable cadaveric rigidity after contact of the muscular tissue with a solution of chloral, but only under particular conditions ; it occurred in frogs after section of the medulla or of a nervous trunk. If, for instance, the sciatic be divided, and a small quantity of a solution of chloral be injected into the thigh of a frog, cadaveric rigidity will shortly after invade the entire limb, and will be gradually transmitted to the whole animal. But I will not stop for these details, which have not much importance in the question which occupies our attention, and which prove nothing in favor of Richardson's theory. This English physician has maintained, without demonstrating its truth, the hypothesis of structural change.

The poison seems to leave muscular contractility intact, as Goujon and Labbé have proved by electricity. The same fact has presented itself to my observation in frogs, even after death had occurred several hours previously. Nor is its irritability affected ; of which we may assure ourselves by means of a galvanic current ; and we must, therefore, refer the muscular hyposthenia to some change in the nervous centres. Professor Longet asserts that the pons varolii is the centre of locomotor excitation, and it is probable, therefore, that in chloralism this part of the brain is affected and its functions interrupted.

7*th. Successive Action of Chloral upon the Nervous System.*—Flourens has well shown how chloroform acts upon the nervous centres, abolishing their functions one by one. Chloral seems to possess the same power. In virtue of its affinity for the nervous system, it takes away from it each one of its functions in the following order—viz., the hemispheres, the pons, the spinal cord, and finally the medulla oblongata being successively attacked, we witness the disappearance in turn of intelligence, volition, muscular power and sensation, respiration and circulation.

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* Acad. des Sciences, November 2d.

8th. *Oculo-pupillary Phenomena.*—During sleep from chloral the eyes are injected and drawn downward and inward, and the pupils become contracted ; in a word, it is evident that the condition is the same as in physiological sleep. In rabbits, Richardson has remarked dilation and irregularity of the pupil, after the administration of strong doses of chloral, but there is nothing in this which is peculiar to chloral, since it is observed in many other cases of violent death. Bouchut made an examination of the fundus of the eye in a child during sleep from chloral ; the veins of the retina were found small and filled with black blood. Chloral seems to have an almost elective anæsthetic action upon the eye ; the cornea as well as the sclerotic becomes very rapidly insensible ; Liebreich first noted this circumstance.

What is the cause of the oculo-pupillary phenomena which follow the administration of chloral ? Richardson speaks of paralysis of the muscles of the iris, but we cannot understand why the action of the poison should be directed against the radiated rather than the circular fibres. Have we to deal here with a nervous action affecting the filaments of the great sympathetic, or the cilio-spinal centre of Budge and Waller ? Possibly so, although there is nothing to prove it ; no experiment has been made in order to demonstrate it. I ought to add that atresia of the pupil never occurs but during sleep, and that we cannot cause it directly by dropping a solution of chloral into the eye.

9th. *Action of Chloral on the Secretions.*—Chloral appears to augment the secretion of urine (Demarquay, L. Labbé and Goujon, Personne), but it does not alter its normal qualities, *i.e.*, we do not find it in either chloral or chloroform. I have satisfied myself, along with my friend Dr. Bordier, that the urine of a chloralized rabbit did not contain, on the animal's awaking, any principle capable of precipitating Barreswell's Solution ; I have also seen the same thing while operating with the urine of frogs. The investigations of Bouchut show that in man the case is quite different ; the urine has been found so much increased in density as to mark 1032 ; in this condition it precipitated Barreswell's Solution, and was turned brown by potash or the sub-nitrate of bismuth. No polarimetric examination of it was made, which is to be regretted, for it is as reasonable to presume that glycosuria existed as that precipitation was due to chloral which had passed into the urine. In view of this unusual case, I should willingly adopt the idea of a transitory glycosuria ; such occurrences are not rare in hospitals, intruding, as it were accidentally, upon a case and giving rise to mistakes.

Formic acid has not been detected in the urine.

Chloral has but little effect upon the function of the sweat-glands. Scarcely anything more than a little moisture or a slight perspiration has been noted during chloralic sleep, although Laborde* suffered from profuse sweats, after having used an impure chloral.

How does chloral act ? Liebreich, studying chloral with regard to its decomposition in the body, was of opinion that this decomposition was only successive, *i.e.*, that the chemical substance was not destroyed without passing through certain intermediate phases. He surmised a series of metamorphoses giving rise to the formation of chloroform, and of formic and muriatic acid. Now physiology gives an accurate description of the effects which result from the presence of chloroform in the economy ; they are very easily determined. There can be nothing simpler then than to examine whether or no chloral, by oxidation, furnishes an intermediate substance, chloroform, before reaching its extreme terms of formate and chloride. This has been the starting-point of the experiments with chloral. In the first place, the German chemist noticed that the physiological action of chloral was the same as that of chloroform, and inferred the transformation of the former.

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* Acad. des Sciences, November 8th.]

In England, Richardson, studying chloral and chloroform comparatively, administered by the hypodermic method, observed their effects to be identical ; he admitted the German theory without further discussion ; but it was soon after established beyond doubt for his mind, by further experiments—viz., that on giving chloral to animals in large doses, he noticed distinctly in their breath the odor of chloroform.

In France a distinguished chemist, Personne, brought forward another proof in support of the theory. On analyzing the blood of animals poisoned by chloral, he found that it contained chloroform in notable quantity ; he was enabled to measure its quantity by decomposing it and isolating its chlorine by nitrate of silver. This and the fact that Roussin subsequently made a public demonstration before the Academy of Medicine of this metamorphosis in blood outside of the economy are the principal arguments which plead in favor of Liebreich's theory.

These arguments are very weighty, but nevertheless I do not regard them as unimpeachable. And in the first place, is it necessary that a compound substance should be decomposed within the body in order to act upon it ? No. The organic alkaloid, the iodide of potassium, certain salt of mercury, etc., traverse the system without change, and produce nevertheless powerful effects, and chloroform is in the same category, for no one has ever been able to detect the formic acid resulting from its decomposition, and it acts therefore by its presence alone. This circumstance allows us to suspect, at the very outset, that chloral may in its turn have a similar autonomy, a similar catalytic power, so to speak, of acting by itself. Several writers in France have supported this latter theory, and have advanced arguments which I shall repeat.

Demarquay was the first to react against the theory of transformation, declaring that it had no foundation, since he had plainly detected the odor of chloral in the breath of animals poisoned by it, but never that of chloroform. Comparing the action of chloral upon the nervous system with that of chloroform, he observed two opposite effects, hyperæsthesia with the former, anæsthesia with the latter. L. Labbé and Goujon have given still other reasons for opposing Liebriech's theory. If we admit the reduction of chloral in the blood of an animal, the latter ought to die during the excitement of insomnia, for the experiments of Flourens, Longet, and Gosselin have proved, that when small successive doses of chloroform are introduced into the blood, death supervenes after phenomena of violent excitement. Chloral would completely fulfil these experimental conditions, if it be true that it is transformed into chloroform in the blood.

Professor Gubler* has urged against the theory of Leibreich the following considerations—viz., 1st. The blood opposes an obstacle to chemical reaction by the albumen which it contains, for the latter envelops chemical substances and becomes an effectual barrier between their mutual affinities ; chloral and the alkaline salts of the blood are subjected to this influence, and consequently cannot come in contact, so that reaction may take place ; 2d. Anhydrous chloral is a violent poison, which far surpasses chloroform in the intensity of its toxic properties. This is readily proved by the following experiments : Beneath two bell-glasses are volatilized, in the one, two drops of chloral, and in the other ten or twelve drops of chloroform, and then a frog is placed in each. Now, while the one which breathes the chloral succumbs after phenomena of violent excitement, the other, which has been subjected to the action of chloroform, goes to sleep, and is easily restored to consciousness. The anhydrous chloral penetrating atom by atom into the blood of the reptile, was in the very best physical condition for producing chloroform ; nothing of the kind took place, since it killed the animal, which the chloroform would not have done.

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* Soc. de Thérap., December, 1869.

I have thus exhibited the arguments for and against the theory of Liebreich ; I have still to state for what other reasons I cannot adopt it. According to my idea, the best argument that can be advanced against the theory is that it rests upon uncertain proofs. Richardson, in arguing upon the odor of chloroform perceived in the breath of chloralized animals, furnishes but a doubtful and uncertain fact. We cannot place overmuch reliance on an olfactory diagnosis, and besides, Demarquay, on the other hand, noticed the odor of chloral. There remains the analysis of Personne, who demonstrates the presence of chloroform in the blood. This proof is but a specious one. This chemist measures the chlorine, and in order to show that it is chloroform which has furnished it, he submits an aqueous solution of chloral to an identically similar operation, but does not succeed in isolating chlorine. This matter of procedure is too indirect to convince me. But laying aside whatever defects may exist in the method employed, I will admit for a moment that the blood does contain chloroform. What then ? Why, that it will be eliminated in the ratio of its production, it will pass off at once by the natural emunctories, the lungs, kidneys, and sweat-glands, and it will therefore either not act at all or else it will produce only imperceptible effects.

Cl. Bernard demonstrated, a very long while ago, that the toxic effects of a formidable poison (strychnine, hydrocyanic acid, etc.) may be controlled by providing for its elimination incessantly and in proportion to its supply. And besides, what are we to think of the case cited by Liégeois,* in which a dose of chloral was given to a patient, and shortly afterward chloroform was administered by inhalation, in order to produce anæsthesia. Wonderful to relate, the only result arrived at was the bringing on of a state of excitement all the more violent the more the medicine was pressed ; the patient resisted the influence of the anæsthetic agent. If transformation be admitted, we cannot understand why chloroform added to chloroform should not produce anæsthesia.

Richardson offers still another proof in support of the German theory, that, namely, of the identity of effect of chloral and chloroform administered by the hypodermic method ; analogy there may be, but identity is far from being evident, for the duration and intensity of action are by no means the same in two cases. This argument has but little weight with me, for I do not see in this comparison either the possibility or the proof of transformation, but a simple resemblance of effects.

Antagonism of Chloral and Strychnine.—In December, 1869, Liebreich added a new and important point to the history of chloral. Having injected two grammes (30 grains) beneath the skin of a rabbit, and some time afterward 0 gr. 0015 (about one fifth grain) of sulphate of strychnine, he was surprised to find that the symptoms of poisoning by strychnine failed to make their appearance. There were no convulsions, no appreciable disorder, and a ready restoration to consciousness. He inferred an antagonism between chloral and strychnine. He satisfied himself, however, that chloral is not an antidote for strychnine, although the reverse may be the case ; for the latter substance is absorbed too rapidly, and acts before the chloral can react upon it. Liégeois* has confirmed the fact announced by Liebreich, and explains it by saying that chloral assists the elimination of the strychnine. I recognize distinctly here two effects acting in contrary directions; strychnine increasing the excito-motor power of the spinal cord, while chloral seems to weaken it. We understand how Liebreich's rabbit profited by the antagonism.

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* Soc. de Chir., March 16th.

C. THERAPEUTICAL APPLICATIONS OF CHLORAL.

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In the following recital we shall endeavor to bring succinctly together the fundamental properties of chloral and the applications which have been made of them, in order to avoid a nomenclature at once irksome and void of arrangement:

1*st. Hypnotic Action.*—Although a very good hypnotic, chloral does not always succeed in agrypnia. I have shown that in this it does not differ from the narcotics in general usage, and that there is ground for believing that its success will be more certain when we become better acquainted with its mode of action on the circulation. Insomnia, I repeat, is accompanied sometimes with hyperæmia and sometimes with anæmia of the brain, and we readily, therefore, understand of what importance is the vascular action of a hypnotic, since on that depends the indication for its use. It would seem to result from a certain number of observations, that chloral acts principally in the insomnia complicated with hyperæmia, but I cannot assert this as a fact, especially as it is opposed to the conclusions of Demarquay. According to this surgeon, chloral acts chiefly upon weak and debilitated patients. With Liebreich and Bouchut, I consider chloral an excellent narcotic in the treatment of children; in their case it is not open to the same grave objections as opium.

2*d. Analgesic and Anæsthetic Action of Chloral.*—From this action, which is undoubted, results many applications. Experience has shown the good effects of chloral in sciatic (Spencer Wells), supra-orbital, and sub-occipital (Namias), and trifacial neuralgia (Richardson), etc., in the intense pains suffered by some consumptives (Maréchal de Calvi, Maudl, Namias). I may add that Bazin, the eminent dermatologist of the Hospital St. Louis, has obtained excellent results from the use of chloral in painful zona.

Unfortunately, chloral does not always relieve pain. . . . At any rate, we cannot expect from the use of chloral more than a palliative effect; it can never, for instance, aspire to the *cure* of neuralgia, in consequence of the fugitive nature of its effects.

We find the employment of chloral in hepatic colic and biliary calculus recommended in various journals.† It is an open question whether chloral would not act topically on the duodenum so as to calm the paroxysms of pain, as we know that its power of local anæsthesia has been proved by Liebreich. Is this efficacy of chloral in hepatic colic superior to that of chloroform, demonstrated long since by Professor Gubler? I know of no proof of it.

Chloral has been given for the arthralgia of acute rheumatism, but with what result is not definitely known.

To my mind, one of the best indications for the use of chloral as an anæsthetic has been pointed out by Giraldés, Demarquay, and Spencer Wells. These surgeons administer the hydrate to persons on whom they have operated as soon as the operation is finished; the patients go to sleep and escape the painful sequels of the operation. There would be no harm in adopting this course after an accidental wound, as have done Liebreich, W. Adams, and Marjolin.

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* Soc. de Chir., March 30th.

† Zuber. Thése de Strasb., 1870.

In Germany it has been suggested that chloral might be introduced into surgery, and Bouchut is of this opinion; he has extracted teeth during chloral sleep. It is possible that minor surgery may utilize chloralic anæsthesia, but I doubt much if it prove sufficient for capital operations, as it would be necessary to use large doses, which would not be free from risk, in consequence of the intoxication which might ensue. I cite an instance related by Noir (de Brionde); in an amputation of the leg, in a patient kept under chloral for several hours, there came on after the operation a violent attack of "delirium with excitement."

I said, while discussing the physiological action of chloral, that it had a very manifest anæsthetic action upon the cornea and the globe of the eye; and it seems to me that this property might be made use of in painful affections of the eye, though it might not be so well adapted to operations to be performed on that organ.

But I put a stop to this enumeration, for chloral has been employed in every sort of painful affection, although I do not know that it has as yet been recognized as superior to ordinary anodynes.

It results from the preceding considerations that chloroform surpasses chloral as an anæsthetic agent; in fact, that the latter, at least for the present, remains its succedaneum. It has been suggested to use chloroform to assist the anæsthetic action of chloral, but Liégeois has shown that, far from producing anæsthesia, the inhalation of chloroform after chloral produced violent excitement. Richardson says that he has produced profound anæsthesia by chloral dissolved in ether. I am astonished at such a result, knowing that ether, by inhalation in a chloralized patient, only produces excitement (Giraud, Teulon).

3d. *Indications Drawn from Certain Effects of Chloral upon the Nervous System—Chloral in Delirium.*—Chloral has been much lauded in delirium. It has been tried in all forms of mental aberration and certain transitory types of delirium. Insane persons laboring under excitement, and patients who, by accidentally stumbling, show serious derangements of the locomotor functions, present one symptom in common—viz., active cerebral disorder; and the idea has been suggested of employing the hyposthenic action of chloral to combat this exaltation of function. Suffice it to say, that the cases were not picked; and that the remedy was employed indifferently in the delirium of general paralysis, of mania, epilepsy, hysteria, etc., and also in that of patients who had been operated on; of wounded persons, in delirium tremens, etc., etc. I can only mention the good results obtained in each of these varieties of cerebral disorder, reserving absolutely my opinion as to the indication for the use of the drug, except as far as regards delirium tremens.

This form of delirium seems to be the most easily curable by chloral. Liebreich first called attention to the fact, and in England there was not long wanting an opportunity for verifying the assertion of the Berlin chemist. Barnes, of Liverpool,* very soon obtained nine cures out of ten cases by treating them with chloral; the patients were in all cases easily calmed and put to sleep by the medicine. Chapman and Richardson mention still other successes. In Germany, Langenbeck† also cured several of his patients of both sexes by hydrate of chloral. At present the cases of cure are quite as numerous ; they prove the happy effects of Liebreich's remedy, without, however, establishing its supremacy.

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* Med. Times, September 27th.

† Klin. Wochenschrift.

In view of such important results obtained in "delirium with excitement" by means of chloral, the idea occurred to several physicians that it might be advantageously prescribed in puerperal eclampsia. Some few cases seemed to justify this anticipation.* Bübl Brickard (v. p. 29) and A. Serré relate some favorable instances. We must, however, wait for a stronger array of positive facts before we can definitely decide upon the value of chloral in eclampsia.

I have mentioned a large number of nervous affections suitable for the employment of chloral ; but I have not room for the discussion and analysis of all these applications. I should have liked to have evolved from them some points of practical utility as yet unknown, but unfortunately the cases observed are not sufficiently numerous to allow of the deduction of very precise conclusions.

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The elective action of chloral on the encephalic mass has not often been made use of in the treatment of organic diseases of the brain. Bouchut advises that it should not be prescribed in meningitis, for instance, on account of the cerebral hyperæmia which it produces. Després,† however, observed remission of pain in a woman suffering from meningitis and abscess of the brain, to whom he had given hydrate of chloral.

We have already spoken of the physiological effects of chloral upon the spinal cord ; we know that it causes the latter to lose its motor excitability. The attempt has been made to profit by this hyposthenic action, in order to combat tetanus. Professor Verneuil first published a case of cure,‡ which created a great sensation. Nélaton addressed the Institute on the great necessity for caution in our estimate of the means employed, in view of the fact of but a single case of tetanus having been cured by chloral.

A short time afterward, when the Société de Chirurgie opened a discussion upon Verneuil's communication, Déspres undertook to prove that traumatic tetanus is cured once out of nine times by the most varied methods, and that, therefore, there was ground for postponing any conclusions on the subject. A short time after occurred a few negative cases which seemed to sustain this opinion. Without speaking of the failures in the treatment of spontaneous tetanus, related by Bouchut, I may cite the unfavorable cases of traumatic tetanus reported by Liebreich, Demarquay, Simonin, etc.§ Quite recently my revered preceptor, Langier, lost a patient suffering from tetanus, in spite of the use of chloral in large doses.‖ And, moreover, Professor Verneuil employed chloral and morphine conjointly. Now this latter drug has often produced most brilliant results. Thus Briolle de Roquemaure,¶ in treating a tetanic patient, the history of whose case is almost identical with that of Professor Verneuil, gave him morphine internally and externally, using also blisters to the whole length of the spine. In nineteen days the cure was completed.

I cannot, therefore, believe in the curative powers of chloral in tetanus. Undoubtedly it is a powerful palliative, calculated to moderate convulsions, but incapable of preventing their return. We must, for the present, regard it solely as a valuable means of sedation, whose effects are often transitory, in consequence of its rapid elimination. We may add to Professor Verneuil's successful case that of Dubreuil, which was also one of mixed treatment; *i.e.*, by chloral and continuous galvanic currents. Lastly, Langenbeck's case—in all, three cures.

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* Klin. Wochenschrift, Berlin, 1869.

† Soc. de Chir., April 27th.

‡ Acad. des Sciences, March 14th, 1870.

§ Soc. de Chir., May 4th, 1870.

‖ Soc. de Chir., June 1st.

¶ Gaz. des Hôpitaux, 1869, p. 386.

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Two neuroses, chorea, and epilepsy, have been treated by chloral. Bouchut has met with remarkable success in chorea, and, on the other hand, he has seen a case of symptomatic epilepsy grow worse under the influence of the medicine. I am unwilling to draw any conclusions from these cases, quite too few in number to carry any conviction with them. But we must admit as regards chorea, that if it is always as readily amenable to chloral as in the cases reported by Bouchut, the therapeutics of children's diseases will have made a most valuable acquisition. While, however, I shall be glad to find this point ultimately established, I am still doubtful of it, recalling to mind that other medicines, the bromide of potassium, for instance, have, *sometimes only*, produced as good results, without our being able to account for this irregularity in its action. And, moreover, my distinguished preceptor,* M. Roger, has had no reason to congratulate himself on the use of chloral in chorea. Adhuc sub judice lis est.

There is not a single disease, either incurable or difficult to cure, in which an attempt at relief by *the use of medicine* has not been made; even *locomotor ataxia* could not escape chloral. It has been given with the special purpose of relieving the terrible pains of *tabes* (sic), but its efficacy has not as yet been shown to be unquestionable.

Chloral has, with the same object, been tried in the lancinating pains of cancer. Demarquay, who, by way of comparison, made some experiments with morphine subcutaneously, prefers the latter.

4th. Indications drawn from the Effects of Chloral on the Circulation and the Blood, on Temperature, Respiration, and the Muscular System.— The pressure exercised by chloral upon the heart, added to its analgesic properties, lead us to anticipate its successful employment in painful cardiac disease accompanied with excitement; but investigations in this direction are still to be made. The effect of this medicine upon the temperature might also be made use of in severe fevers, when the heat of the body is excessively increased, and this would not only be a good case for the administration of chloral, but at the same time a valuable resource, for we have but few medicinal agents with which to oppose this elevated temperature of pyrexia, which exposes the patient to such formidable dangers.

It has not yet been proved that chloral is eliminated by the respiratory organs, but, theoretically, it is very probable, and it is a property which might be utilized in certain painful affections of the bronchi. Maudl has administered it to consumptives in the form of cigarettes, and says that he has seen good effects from it. It is not impossible that this substance may act topically, producing anæsthesia of the broncho-pulmonary mucous membrane by contact. Certain convulsive or painful coughs have yielded to the administration of chloral (Liebreich, Maudl).†

I cannot say if this agent would be of service to asthmatics or patients attacked with spasm of the glottis, for I know of no case which proves it. It remains to be investigated.

Richardson deduces from the power of chloral to produce muscular relaxation, an application of the drug which remains, I believe, a matter of pure theory ; he recommends it in strangulated hernia to facilitate taxis.

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* Bathery, Soc. Méd. d'Observation.

† Gaz. des Hôpitaux, p. 590.

If we take into account the effects of chloral upon the muscles of animal life, which are now unquestionable, and the more hypothetic ones, which it should have upon those of organic life, we may conclude that, theoretically, the employment of chloral in obsterics is barely admissible. However, in consideration of the very remarkable results following the use of chloroform with lying-in women, we have reason to hope that chloral, like its congener, will some day disprove the theory.

According to Richardson, chloral acts on the blood, modifies its globules, and retards or prevents its coagulation, and, lastly, makes it more fluid. The English writer sees in these facts a source of useful application. Thus, whenever we apprehend the results of coagulation of the blood, so liable to occur in certain diatheses or some diseases, it will be advisable to administer the drug. If this be admitted, it is clear that chloral is doubly indicated in burns as an anæsthetic, and as a substance opposing the development of thrombus and capillary embolism ; an occurrence quite frequent in severe cases, according to Feltz. I confess that I would place but slight confidence in chloral for the production of these results, since it is eliminated very rapidly, and therefore can only have upon the blood effects which are fugitive in their character, and upon which we can by no means count for a modification of its crasis.

I will not speak of the expectations which may be founded on the topical action of chloral in its passage through the emunctories ; these are not as yet well ascertained, and as I do not wish to add any more hypotheses to those which already burden the history of the drug, I pass them by with mere mention.

DOSES AND MODES OF ADMINISTRATION.

The dose varies according to age. Liebreich directs 0 gr. 04 (⅜ grain) for new-born infants, and 0 gr. 09 (1⅓ grains) for those under one year of age. Bouchut and Giraldés have prescribed 1 gr. (15 grains) at 4 years, and 3 or 4 (45 to 60 grs.) for patients from 5 to 15 ; for an adult the proportion is not much greater. We should never exceed 5 or 6 grammes (3½ to 4½ scruples), although 10 grammes (2½ drachms) have been given with impunity. Richardson advises that account should be taken of the weight of the patient, of his condition, of spareness or obesity, and of his impressibility. I am of opinion that the dose should be specially proportioned to the effect sought for ; a moderate dose to induce hypnotism, a large one to produce anæsthesia or analgesia.

Chloral may be administered, as a draught, in capsules, in a clyster or by subcutaneous injection ; the pomade and glycerolate of chloral are almost unused.

The ordinary vehicle for chloral as a draught is simple water, or mucilage of acacia, and we should be careful to add to it some corrective, such as the syr. cort. aurant. or some aromatic water. Limousin has devised capsules of chloral ; they are convenient. The clyster of chloral is certainly the best method of administering the drug ; the patient is spared its disagreeable effects upon the upper part of the alimentary canal, at the same time that its absorption is favored. The formula is two grammes (½ drachm) of chloral to 125 or 150 grammes of water (⅘ ounces).

Liebreich, Namias, etc., have tried the plan of subcutaneous injections. I do not perceive the advantage of this ; its effects are neither more complete nor more rapid, and one runs the risk of leaving a scar. I know that this has not been the case in man, but in animals it is a frequent result.

I mention merely by way of note Richardson's plan of inhalation; he makes his patients inhale chloral previously dissolved in ether. It is a method suitable only for the laboratory. I prefer Maudl's cigarettes.

As a general rule, we should avoid prescribing chloral when we apprehend any lesion of the gastro-intestinal canal (Liebreich).

Conclusion.—I have thus given an epitome of the present history of chloral, still obscure and full of desiderata; but it has nevertheless been proved by numerous and conscientious investigations that "therapeutics" has been enriched by a powerful agent, full of promise and well calculated to stimulate the scientific ardor of physicians. The discovery of Liebreich will remain a monument of honor to German research.

ART. II.—FOUR CASES OF THE WORST VARIETY OF STRICTURES OF THE URETHRA RELIEVED BY INTERNAL URETHROTOMY. By C. H. MASTIN, M.D., Mobile, Ala.

In a former issue of this Journal there appeared a paper entitled "A New Method of Treating Strictures of the Urethra after External Sections." Notwithstanding the very remarkable success which had attended the ten cases therein published, the writer of that paper took the ground that the operation of "external section" or "external urethrotomy" was only called for in those very exceptional cases of stricture which were impermeable or impassable; where it was not possible to pass an instrument through the coarctation; that in those cases where a conducting guide *can be passed*, which is always an essential prerequisite to Mr. Syme's operation, *there is no necessity or propriety of subjecting the patient to the hazard of an external operation!* I endeavored to make that position tenable by showing that in the operation of Mr. Syme, so-called, it is essential first to pass a guide-rod or conductor through the obstruction, and then to open the urethra posterior to the stricture, and carry the incision from behind forward through the diseased structure. It must be obvious to every one that if it is possible to pass the small guide-rod or director of a small staff through the opening in the stricture previous to the operation by an external section, which Mr. Syme asserts is always the case, as "no stricture is impervious," then also must it be as possible and equally facile to pass the conducting-rod or guide of an internal urethrotome, and thus be enabled to perform a simpler and safer operation in the form of an internal section, and one which will furnish to us as good if not better results than the more difficult and infinitely more dangerous operation of external urethrotomy. There are cases, however, cases which I am free to admit require, and for the relief of which I advocate the external operation; they are those cases where no entrance can be made into the bladder through the stricture; cases where the urethra remains impervious, letting in no catheter, letting out no urine;" cases in which there exists an imperative necessity for speedy relief, yet where the constitution of the patient has not become so exhausted but that he can go through the state of confinement and shock incident to the operation of external section; in such cases I then, as now, advocated the old operation of l'boutonnière, an external section which, in my opinion, is not only much safer (although more difficult to perform), but infinitely more preferable than the operation which is peculiar to Mr. Syme.

I now propose, in illustration of those views, to furnish you the notes of a few cases, which are typical of the points advocated in the article referred to. They are cases of special interest in their history, and are valuable as showing the results of the operations which were performed upon them, in contra, to the treatment through which they had passed—viz., cauterization, dilatation continuous or vital, gradual or temporary, or forced; and also the "immediate operation by rupture" of Mr. Holt.

These cases are given to substantiate the assertion which I make, that those strictures which require an external operation are not such as admit the passage of an instrument, but those which are absolutely closed, and through which no urine and no instrument can be made to pass, and that not always even in those cases where the urethra is absolutely closed—a perfect cul-de-sac—must we resort to an external operation, *unless* the condition of the patient is such as will warrant the opinion that he can sustain the prolonged confinement, together with the shock, which is generally incident to this operation. It is not my intention to enter into a professional controversy upon the merits or demerits of external or internal urethrotomy, but more especially to guard the general practitioner, who may only now and then be called to aggravated cases of this sort, from falling into the error of being led away by the doctrines which are so often promulgated in some of the concise works upon this subject, and which, unfortunately, for the reputation of their authors, or the good of those who suffer from the disease in question, prove to be only the peculiar views entertained by the special author himself, as illustrating the variety of operations which he may have performed.

In reporting these cases, which are only a few, selected from a large list of like operations, it is not my wish or intention that any comparison should be drawn between the success of the operations as done by myself and the result of their past treatment; I only use them to illustrate the fact, that cases in which absolute retention has taken place, or even those in which the urethra has been closed to a "cul-de-sac," and which, under the rules laid down by Mr. Syme and the advocates of his operation, would have been submitted to an external operation or a paracentesis of the bladder, *can be relieved* by the least dangerous of all the cutting operations—viz., "internal urethrotomy."

Case I.—J. A. D., aged thirty-four, of good appearance, robust in form, and easy in his habits of life, a young gentleman of this city, had been suffering from stricture of the urethra since he was eighteen years of age. The outlines of the history of his case are briefly as follows: In 1855 he contracted a gonorrhœa, was treated with very strong injections of nitrate of silver, upon the abortive plan; he recovered apparently in a very few days, and had no trouble for several months, when he began to notice a diminution in his stream of urine; this led him again to consult his medical adviser, who opened his stricture by the method of gradual dilatation with soft gum bougies, by which means he was for a time relieved, and got along with very little discomfort, except now and then a new case of gonorrhœa, and once or twice an attack of orchitis, which he attributed to the use of caustic injections, which he had again resorted to for the cure of his blenorrhagias. With the progress of time, and the repeated injections of the nitrate of silver, his stricture grew more dense, the frequent attacks of gonorrhœa tended to increase the deposit of retactile tissue, and the coarctation became so troublesome that in 1864 he was forced to take some steps to gain relief. With this end in view, he visited New York City and placed himself under the care of a physician, who treated him for seven months by the method of temporary dilatation, using soft bougies; yet during this long period he failed to open the stricture larger than a No. 9

English catheter. As all difficulty in passing his urine had ceased, he fancied himself cured, and returned South ; the relief proved to be, like the method employed, only temporary ; for in 1865, just one year afterward, the urethra had closed almost entirely, and he was forced again to seek medical aid. This time he selected a physician in New Orleans, in which city he was then residing, and placed himself under his care and treatment ; it was now impossible to introduce any instrument larger than a No. 1 English bougie ; with this sound the treatment was again commenced, and during six weeks ensuing resort was had to gradual and temporary dilatation ; the stricture was opened by soft bougies until a No. 12 silver catheter could be passed, when his adviser, upon the principle of "*continuous dilatation*," tied in the silver catheter as a retained sound for 121 hours ; after which he discharged the case as cured. But the end was not here ; he was destined to undergo another long siege of dilatation, and that too with but little hope of any permanent relief, for by the end of the year 1867 his stricture had again closed up, and he now experienced the greatest difficulty in passing his urine. He sought relief from another physician, who was then unable to pass into the bladder a No. 1 English catheter. Nothing daunted, he began the treatment with conical silver catheters, and day by day pushed on, until he had opened the stricture sufficiently large to admit the blades of a Holt's dilator, between which he *gently*, and without force, pressed in the smaller staff of the set, which equals a No. 10 sound ; beyond this calibre the urethra was not opened, and he was permitted to remain without further instrumental interference, as he could now pass his urine without difficulty ; he was, however, kept under the observation of his physician, who occasionally introduced his "Holt" and pressed up the No. 10 staff ; but this course of proceeding did not cure the stricture ; instead of doing good, to all intents and purposes it did harm, it but increased and kept up the tendency to the deposit of retractile tissue, and from the constant irritation of the instrument the stricture grew denser, and continued to contract, until it finally closed up entirely, as the future of the case will show. Such are the brief points of his instrumental history, beyond which I do not deem it necessary, or even proper, to enter into the details of the case, as it is not my purpose, nor have I the disposition to question the propriety of the course through which he had passed. I shall be content with giving the facts as to his condition when I was called to visit and take charge of his case on the 17th of January, 1873, and to show the line of treatment to which I resorted, with the satisfactory results which marked the termination of the same.

He had now been confined to his room, and the greater portion of the time to his bed, for four weeks ; his bladder was filled with putrid urine ; his bed and clothing were saturated from the constant "overflow of urine," which had been going on for weeks and months past. His urethra was so far closed that it was with the greatest difficulty, after a prolonged effort, I could introduce the smallest whalebone probe one third of a millimetre in size. He was then in a partially comatose condition, having had during the night before active convulsions ; the accumulation of urine was so great, and the bladder distended to such a degree that the walls of his abdomen were as prominent as a woman's in the latter months of pregnancy. For over twelve hours past he had been unable to discharge a drop of urine ; for two long days and nights he had rolled in the most intense agony, gaining only momentary relief by the use of hot baths, fomentations, and opium, which enabled him to drip out a gill or two of thick muddy urine, until at length tired nature sank, exhausted, and he was in the condition described when I entered his room. For weeks and months gone by he had been troubled with a constant stillicidium of urine, which saturated his clothes by day and his couch by night, rendering him an object of pity to all who were thrown with him. This overflow of urine (I use the term *overflow* in contradistinction to incontinence) had not relieved his distended bladder, for it was but the excess which dribbled and left the bladder full of putrid urine ; not having been entirely emptied for months past, the consequent absorption was now manifesting itself upon his overtaxed nervous system. His condition was a most pitiable one, only to be appreciated by those who have been witness to a patient suffering from all the horrors of a confirmed case of stricture with retention. No time was to be lost, but energy and activity were required for his succor and safety ; there was one of three points to be made, by which he was to be rescued from a certain death.

The first indication was to relieve him by tapping the bladder, and treating the stricture afterward.

The second was to attack the stricture by external urethrotomy, and thus relieve the bladder of its urine by the same operation which was to cure the stricture.

The third was internal urethrotomy, from which the same ends were to be attained, and at much less risk to the life of the patient, with equal if not more certain results as to the cure of the case.

I was unwilling to resort to a paracentesis of the bladder, simply because it is an unsatisfactory operation, and one which has not afforded results equal to the risk of the same. I consider it a bad operation, not sustained by sound surgical principles, one which is fast going out of vogue, and destined before long to become only a thing of the past.

External urethrotomy to be performed upon a man in his condition I considered not free from danger, and utterly out of the question, so long as there remained an opening through the stricture, into which I could pass even so small an instrument as a probe one third of a millimetre in diameter. Nothing was then left me but an internal operation, which, without further delay, I determined to perform, as the operation which afforded the best, and, in my judgment, the only hope of success ; with what result the sequel will show. To this end, after having stretched open the mouth of the stricture (which was located just in advance of the bulb, very firm and dense in its structure) with a whalebone bougie of the smallest size, so that I could pass the smaller filiform which belongs to Maisonneuve's urethrotome, I was enabled by care and patience to work in the staff of the same, after which nothing remained but to push home the blade, and the operation was done. An exploration revealed the existence of two strictures, the first midway in the second region, extending nearly to the bulb, the second just at the junction of the bulba and membranous urethras—in fact, it was almost a continuation of the first. A No. 12 gum catheter was now easily introduced and the bladder emptied ; after which the urethra was explored with a full-size bougie à boule, which revealed some contracted spots, which were then cut by a Civiale's retrograde urethrotome, a No. 12 gum catheter as a " sonde à demeure" retained for twenty-four hours. The usual after-treatment was pursued, and in the course of a week the scale of a Benique was passed to its highest point—viz., No. 54, which equals a 17 English bougie. He was furnished with steel sounds, which ran to the full number of the Benique scale, and directed to use them at stated periods. Every unpleasant symptom has passed away ; the ball-probe detects no abnormal contraction of the urethra, his general health has in a very great measure improved, the dilatation which was so prominent in the perineum has almost entirely recontracted, the stillicidium of urine which had been so very troublesome, and which continued for a month after the operation, owing to the weakness and relaxation of the urethra and bladder, together with the dilatation of the membranous urethra, in the pouch of which the urine had continued to settle, has now entirely ceased, and nothing remains to contradict the assertion that he is entirely well; that is, so far well as a patient can be cured of an organic stricture; it now remains with himself, by the constant use of his sounds, to preserve his condition as it now is, thus avoiding the future closing of the stricture.

CASE II.—B. F., an old and well-known gentleman of this city, aged sixty-seven years, had been the victim of a bad stricture for over thirty years, for the cure of which he had resorted to gradual dilatation and the use of caustics. His stricture was located at the junction of the first and second region, and becoming very close at the bulb. On two occasions he had suffered from retention to a partial degree, for the relief of which he had been treated in New Orleans by caustics (I presume, from his description, "caustic potash)." Temporary relief was afforded him, as he passed a stream of urine sufficient to relieve his distended bladder, and for comfort. However, in the month of September, 1872, he was taken with an attack of fever, which he said followed some indiscretion in diet, and he became very ill; being of small ideas in his professional belief, he called in one of the followers of Hahnemann, who diagnosed his disease to be "congestive bilious fever," and at once set to work upon him with his drug-atoms, and decillionth dilutions, which had as little effect upon his condition as would the term "homœopathia" written in the same cabalistic form as the old charm "abracadabra," and hung around his neck, or elsewhere. In spite of all this he rapidly grew worse, until the day upon which I was called to visit him—viz., 11th of September. I found him in a semi-comatose state, pupils contracted to the size of a small shot, and that too in spite of the scapegoat belladonna, which "little pills" had been pushed into him. Singultus and subsultus prominent, the room impregnated with the odor of urine, shirt, drawers, and bed saturated from the constant "overflow of urine;" a glance was sufficient to satisfy the most casual observer as to the nature of the case before him. I learned upon inquiry that for eight days past he had been unable to void his urine naturally; that he had strained in vain to get out a few drops, when a rigor would come on, and as quickly be followed by thirst and fever, which subsided, only to be succeeded by another rigor and another fever, until he sank exhausted into the condition in which I found him, and against which the unavailing efforts of his homœopathic adviser had proved futile. Inspection of his case revealed a bladder filled with urine, and he fast sinking under the effects of uræmic poisoning. There was but one clear indication present, and that was to empty his bladder and brace up his system against the sure approach of death. Making an examination of the urethral canal, I at once detected the stricture, located as above described, but I was unable to pass even the smallest instrument into the bladder, after over two hours' vain and ineffectual efforts, with a probe one third of a millimetre, which I used with great gentleness, and which was "sufficiently small and properly guided," I could not even "insinuate it" through the coarctation. What was to be done? My patient was an old man, the victim of a long-standing organic stricture, life was fast ebbing away, and every demand made for prompt and efficient action.

The question comes up, Shall I tap this bladder, and treat the stricture afterward? No! was the instinctive reply, for he will either die from the shock or be worn out before the wound in the bladder heals, or before the stricture can be relieved. Will the aspirator be of use here? No! for its action is too slow, and we have not the time to spare. Shall I do an external section? The same objections obtain here as to the operation of paracentesis. He is too far gone to trust to the external operation; to run the risk of shock or the prolonged after-treatment. The stricture is impervious, Mr. Syme's operation is impractical, and l'boutonnière is the only one which can be performed, unless that of forced catheterization, which is as difficult, more violent, and infinitely more uncertain than the operation by internal incision, and that to be performed in the axis of the urethra, from before backward, and without a guide. To this end I at once made up my mind to carry the blade of my urethrotome, which is a modification of the Stafford instrument, *through the stricture*, guided alone by my knowledge of the anatomy of the urethra. By the exercise of great care I succeeded in opening the stricture large enough to admit the beak of my "catheter urethrotome," when with ease and rapidity the blade was passed into the bladder, and the operation finished. A retained catheter for twenty-four hours so softened up the stricture that there was no difficulty in running up the scale to the highest point necessary—viz., 54 Benique. So soon as the urine was drawn from the bladder, he was put upon iced champagne, soups, and stimulants, and soon began to recuperate and grow stronger, when, under the use of wine, iron, quinine, and a rational course of treatment, usual in these cases, he made good his recovery by the first of October, and was discharged, satisfied to keep up the use of his sound once each week, and in the future not trust the use of infinitesimal remedies in "congestive fever," when an organic stricture is at the base of "two or three chills each day, and a *complete suppression of urine* (?) the consequence."

At this writing, near a year after the operation, my old friend continues to be perfectly well, and tells me he enjoys better health than he has done in many years. I failed to mention in the notes of his case that he passed via his urethra, about a month after the operation, a stone fully as large as a small buck-shot; he had no symptoms previous to its discharge to indicate that any foreign body was in the bladder.

CASE III.—C. F. G., a young gentleman, aged twenty-one, in general good health, but had been suffering for eight or nine years with some trouble about the genito-urinary system, which proved to be stricture, located at the bulb; within the past four or five years he had been under the care of physicians in his native State, who had been unable to introduce any instrument through his stricture. On two or more occasions he had suffered from retention of urine, and his general health was beginning to suffer from the irritation induced by the presence of the stricture. This case was placed in my hands for treatment by an accomplished physician of Macon, Ga., Dr. W. Holt, under whose care he had more recently been treated. When he reached Mobile, in 1873, I found very great difficulty in passing a whalebone bougie one third of a millimetre in diameter; there were several false passages in front of the stricture and a considerable dilatation of the urethra in the membranous portion. Having succeeded in passing a probe through the stricture, in the course of four days I had opened the coarctation large enough to admit the staff of Maisonneuve's urethrotome, and it was then an easy matter to incise the stricture throughout its entire length. This was at once accordingly done, and the urethra opened to its full size. No. 46 Benique sound being passed with ease, the stricture was cut in its upper portion, a Maisonneuve's staff grooved in its concave surface being used. Upon examination with a bougie, after the section of the stricture was made, a stone was found impasted in the floor of the urethra, just at the junction of the membranous and prostatic portions, which was easily removed through the urethra, *after* it was fully dilated. This had doubtless been formed from the urine, which was constantly stagnant in the dilated pouch of the membranous portion ; it was about twice the size of a grain of coffee, and as it was not possible for it to have passed along the canal of the urethra until the stricture was opened, it was a fortunate circumstance that it was so easily removed after the stricture was dilated, as it would in all probability have been pushed backward into the bladder by the bougie, and become, as it would have done, the foundation of a large stone. No bad symptom followed the operation, and on the seventh day after the operation I was unable to detect by the most rigid investigation with the ball-probe any remains of the stricture. He was furnished with the steel sounds up to No. 54 Benique scale, which he was advised to use at stated periods, and he left for home on the eighth day after his arrival in Mobile, perfectly well. He came to Mobile on the 22d of April with an almost impassable stricture, to have the external operation performed ; he left here on the 29th of the same month, having been entirely relieved by *internal urethrotomy.* Letters of recent date inform me that he is perfectly relieved, and enjoying better health than for years past.

From the nature of this case, the dense deposit of retractile tissue around the urethra and perineum, the external operation would doubtless have been resorted to by the majority of surgeons, who incline to the views and teachings of Mr. Syme. The result of the operation performed illustrates that even the worst class of close, hard strictures can be relieved by a less dangerous and much easier operation than a perineal or external section.

CASE IV.—Mr. J. L. P., aged thirty-six, sanguine, nervous temperament, has been suffering from stricture for about twelve years. In 1866 an abscess formed near the junction of the scrotum with the perineum, which was opened, and ever afterward the urine continued to pass through the fistule, which was the result of this abscess. He was from time to time under the charge of first one and then another physician, who tried in vain to pass an instrument into the bladder. No introduction was effected, and his health continued to fail. He was placed in my charge by my friends, Drs. J. Fremon and Michel, of Montgomery, Ala., and sent to Mobile for treatment in April of the present year (1873). Examining his case carefully, I found the urethra completely closed into a cul-de-sac, at four and a half inches from the meatus ; there were six fistules involving the scrotum and perineum, with a dense mass of innodular tissue surrounding the urethra from the scrotum to the anal opening ; all his urine passed through the fistules, and his constitution was very much impaired from the absorption of urea and the irritation consequent upon the continued formation of abscesses. He was completely broken down in health and spirits, reduced in flesh, until his weight was only ninety-six pounds. In his then condition I saw it would not be safe or prudent to subject him to any operation, and determined to place him upon a course of treatment by which his general health would be in a measure built up, before resorting to an operation for the cure of the stricture ; with this view I placed him upon iron and quinine, good diet, and gentle exercise. He returned to Montgomery, and remained until June, at which time he again came to Mobile, and demanded an operation. I found that very little improvement had taken place in his condition ; the hot weather had told upon his already weakened body, and I thought his case almost a hopeless one; still as there was nothing left for him save an operation, I determined to give him what little chances remained. I was convinced that an external operation was the one most easy to be performed, but I well knew that in the condition of his perineum, so thickened and diseased as it was, I could not hope to gain union by first intention, and that to do that operation, I would be forced to leave the wound open, to heal by granulation; his exhausted state would not permit the long and tedious confinement through the hot months of July and August in this climate, which would be necessary to effect a cure. Consulting the safety of my patient and the success of my operation, I at once determined to open his stricture in the axis of the urethra, and to cut through this dense mass of tissue in the canal, and thus by an internal operation to gain entrance into the bladder. It was a desperate alternative, yet one which I thought was possible to be accomplished, if pursued with caution and guided by a thorough knowledge of the urethral direction. To this end, assisted by my friends, Drs. Hamilton, Hall, Moses, and Crampton, with my patient under the influence of ether (which in his particular case I preferred to chloroform), I began the operation by introducing my urethrotome, which is made somewhat after the instrument of Stafford, the blade passing from the point of the canula. With this I slowly cut through the course of the urethra until I had passed solid tissue for two inches. The operation was a prolonged one, and exhausted my patient very much. The bladder was now entered by the staff of the urethrotome, but owing to the dense tissue through which the opening had been made, and the thickening of the entire perineum, I was unable to bring down the handle of the staff or to retain a catheter in the bladder *inclined sufficiently* to allow the urine to drain off. Having opened the urethra freely, I determined to allow the case to rest for a few days and see what the result would be. He was placed upon quinine and iron, with hot hip baths, as is usual in these cases, and to my astonishment he rapidly recovered from the shock of the operation; no rigor nor unpleasant consequences followed. The urine continued to pass as before through the fistules, yet he was now able to propel a small stream through the entire urethra. His general health is improving, and the retractile tissue softening, so I determined to let the case alone until he should be in a condition for me to finish the operation. In the mean time, I did not pass any instrument, but left the case to entire rest. Three weeks after the operation, I found that I could pass with some difficulty into his bladder the staff of Maisonneuve's urethrotome, guided by the smallest of his set of filiform bougies. I at once determined to drive in the largest blade of the urethrotome and follow it up by opening the strictured part now cut with the largest staff of Voillemier's divulsor; this being done, I passed in with ease and retained a full size gum catheter, which I was now enabled to dispose of to the right or left side at pleasure, for the purpose of draining off the urine, the thickened tissue being now so much softened that it offered few if any obstacles to the retained sound. Twenty-four hours after he continued comfortable, the urine had all passed through the catheter, and the fistules remained dry. He had had no rigor, nor any unpleasant symptoms of any sort, and expressed himself as feeling far more comfortable than for years past. The catheter was now removed, and is only introduced when necessary to draw off the urine; the fistules are healing, because no water is permitted to enter them, and with this course of drawing off the water at every call to micturate, his cure must and will be perfectly accomplished. He will use for six weeks or two months, or until these fistules are perfectly healed, his catheter at every call to pass his urine; and then, as in all cases of stricture, he will continue, at stated periods, the use of the bougie, which he has been furnished with, and which is suited to the size of his urethra. This he will do to avoid a closure of his urethra, and it will be necessary to use it for years to come. He passes a sound, No. 52, Beneque, equal to a No. 15 English bougie, and on the 26th of July he returned to his home.

I do not deem it necessary to add anything in the way of argument to prove the position which I have taken in reference to the merits of the two operations. I can only reiterate what I have said before, that when it is possible to perform an internal section, that I shall always consider it a much safer and better operation than the external; and so long as I can bring to bear such cases as the above to sustain my assertion as to the merits of an operation, I am then perfectly willing to be classed as one of "those extremists who assert that permeability to instruments necessarily contraindicates the operation;" although I may not meet the support of a certain class of writers who seem to be equally wedded to another operation, against which the authority of some of the soundest surgical writers of the age stands opposed.

ARTICLE III.—A CASE OF SMALL-POX. MODIFIED INOCULATION IN THE FAMILY OF PATIENT. BY W. B. POWELL, M.D., NATCHITOCHES, LA.

On June 4th, of this year, I was called to see Etienne A.'s daughter (black), aged 12 years. On entering the room of the patient I observed an extensive eruption on her face; on further examination I found both the anterior and posterior surfaces of nearly the entire body in the same condition. After carefully examining my patient and closely questioning the mother, I gained such information as to lead me to suspect I had a case of variola, discrete in form, to treat.

As to the cause of this one case (only) having made its appearance in this locality was due to the following reasons, I judge, *i.e.*, the patient herself had not gone off of the place, but a number of visiting friends from a plantation some miles below on the river (which had been visited by small-pox some weeks previous) came to spend a short time with patient's family. In all probability some of these persons themselves had been subjects of the disease, and, owing to their poverty, could not well afford to destroy the clothing, etc., and carried the malady as it were by "fomites" to this house. My treatment for this case was in accordance with the general plans and rules laid down by eminent authors for mild forms of the trouble.

On noticing carefully the patient I observed that the eruption was of three days' standing, and a few of the pustules looked as though they contained a sufficient quantity of pus to justify me in trying Dr. C. H. Tebault's (of New Orleans, La.) plan, that of modified inoculation (it seemed somewhat early, but I tried it nevertheless), which I proceeded to do at once on six members of the family and two in an adjoining house. I did not see my patient again until the 8th, then in company with Drs. Charles Hamlin and Z. T. Gallion, who agreed in diagnosis with me: "An undoubted case of variola, mild in form."

On examining the inoculated parties, found one who had the appearance of taking, but being in doubt we reinoculated this one as well as the others.

Five days after I called and found all of the cases had taken well; one child had a few pustules on the forearms, also a few on the feet.

22d. I visited my cases, and found the characteristic cicatrix as it should be, no untoward symptoms resulted from the modified inoculation, and no spread of the dreaded malady up to this date.

I am pleased to state, that after I had paid my first visit to my patient, I spoke to my worthy friend and confrère, Dr. Charles Hamlin, and told him I feared I had a case of "variola" to treat very near us, and that to be on the safe side (knowing the liability of the household to take the disease) I had tried Dr. Tebault's mode, that of "modified inoculation," on several cases. He remarked, "Well, you did exactly what was right; there is nothing like trying it, for those in the house with the case are more than apt to take small-pox, so give it a trial, and let's see what it will do." So I did, and the result was a success. Should it be my lot again to be called to treat small-pox, I will use every endeavor to institute Dr. Tebault's plan of inoculation. If I cannot get oil, milk (condensed) or milk of any kind, I truly believe common warm water will answer every purpose as well, and with equal success.

Let those of the profession who are in the dark give it a fair test when an opportunity offers itself and report the result, for we never know what can be done until we do try.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

CARDIAC FAILURE IN ACUTE DISEASE.

Dr. B. Robinson (*Medical Record*, May 5, 1883) says, as a means of avoiding this, 1st. All unnecessary fatigue should be absolutely avoided during the duration of even the mild cases of diphtheria and typhoid fever. Patients should not be permitted to raise themselves in bed, to sit up but a very short while on any particular occasion, and then only when convalescence is well advanced. They should not be allowed to feed themselves or to perform any act which causes outlay of physical energy and which can be avoided by judicious nursing. 2d. Cardiac tonics should be employed in *very moderate* doses from a relatively early stage of the disease, and particularly if there be even slight manifestations of cardiac failure, as shown by inequality or irregularity in force or rhythm of cardiac beats, or of the radial pulse, or, indeed, by attacks in any manner resembling those to which I have referred. 3d. In typhoid fever, as well as diphtheria, black coffee is a very valuable stimulant, and should be employed early in the disease. Liquid nutriment in very concentrated forms should be employed. The internal use of large doses of the tincture of the chloride of iron, which is one of the most powerful styptics and astringents, is presumed to exercise these properties in the blood if it be absorbed. Now to what extent, Dr. R. asks, is it responsible for the formation of intra-cardiac fibrinous coagula, particularly in diphtheria? This last is a little far-fetched, and certainly does not show a careful study of the therapeutics of the tincture of the perchloride.

LIME SALICYLATE IN CHANCROID.

Dr. R. Viforcos (*Gaceta Medica Catalona*, March 3, 1883) reports seven cases of chancroid, in which lime salicylate was very marked. The first case had five chancroids situated between the prepuce and the gland. These were dressed several times a day with a two per cent lime-salicylate solution. Within eight days the ulcerated surface was perfectly clean; the character of the inflammation had changed, and in three days more (eleventh of treatment) healthy granulations had already appeared. The second case was phagædenic ulceration of the skin of the penis, extending from the middle to the base of the organ. The parts were very much swollen, and the destructive action evidently spreading. The wounds were not cauterized, as in Viforcos' opinion such a procedure tends, if anything, to increase the probability of necrosis. He used carbolic acid, alcohol, iodine, etc. None of these giving satisfactory results, he tried the same salicylate-lime solution as in the other case. The pain at once became less, and cicatrization, hitherto sluggish, became vigorous. Within thirty days after the application of the salicylate the ulcerated surface was completely healed over.

CARDIAC CIRRHOSIS.

Juhel-Rénoy (*Medical and Surgical Reporter*, March 13 1883), describes a myocarditis, in which the valvular apparatus remains normal from the beginning to the end. This hypertrophic sclerosis of the muscular tissues of the cardiac walls is characterized by the abnormal development of the myocardial connective tissue, a hyperplasia, commencing at the periphery of the arterioles, and gradually involving the muscular substance, which atrophies and is replaced by connective tissue. At the same time that many fibres become atrophied, the heart as a whole becomes hypertrophied. The degenerative lesions are most marked in the muscular portions of the mitral valve (columnæ carneæ, musculi papillares). The début is very insidious; later on the disease is accompanied by symptoms, some permanent, others recurring only at intervals. Among the first are: 1. Weakness of the heart-beat and pulse, coinciding with increased frequency; the pulse sometimes is 140, but regular. Progressively increasing cardiac hypertrophy. The absence of any blowing murmur, present only in exceptional cases. Among the inconstant symptoms are: pain in the cardiac region, of maximum intensity in the fifth intercostal space; nocturnal polyuria without albuminuria. Pulmonary congestion may occur at intervals, affecting particularly the anterior portion of the apex of one lung. Finally, at a more advanced period, all the symptoms of asystole may appear. The usual termination is death.

ETHERIZATION AND RENAL DISEASE.

Dr. J. B. Roberts (*Medical and Surgical Reporter*, June, 1883), while admitting that renal affections *increase* the risk of anæsthesia, and that anæsthesia is invariably a stage of some danger, and should be looked upon in that light by all administrators, says, "Withholding ether inhalation, however, from patients with renal trouble, when painful operations are necessary, would be unjustifiable, because the risk is comparatively slight. The surgeon should always be cognizant of the existence of such a complication; but it need not deter him from etherization, though it should make him exceedingly watchful. Chronic kidney disease is an exceedingly common affection, especially among those subjected to privation and exposure, and those addicted to alcohol. These two classes are particularly liable to injury and disease requiring surgical attention under anæsthesia. It is impossible to believe that in nearly one hundred thousand instances of etherization (even admitting repeated inhalations by the same person), there were only enough patients afflicted by chronic kidney disease to furnish four deaths, if it is true that etherization in such cases is, as a rule, followed by death. Even admitting that the deaths suppressed or unreported would be sufficient to increase the number given tenfold, it is still impossible that there could be so little renal disease as to cause so few deaths. It is evident, therefore, that fatal results do *not*, as a rule, follow etherization of patients suffering with renal disorders. It is scarcely necessary to state that nearly every surgeon of large experience has observed patients known to have chronic nephritis, who have been etherized with impunity."

NASAL COUGH AND THE EXISTENCE OF A SENSITIVE REFLEX AREA IN THE NOSE.

Dr. John N. Mackenzie, of Baltimore, in the July issue of the *American Journal of the Medical Sciences*, directs attention to the great frequency of cough as a symptom of nasal disease, and indicates, as far as possible, the manner of its production.

The dependence of cough upon irritation of the external auditory meatus and pharyngo-tracheal membrane is well known, and the terms "ear" and "laryngeal" cough have passed into current use among medical men. It is also quite possible that the reflex act may originate primarily in morbid conditions of various other organs of the body, and the familiar expression "stomach" and "liver" cough would seem to indicate that such a causal connection had been accepted as true of some of the abdominal viscera. This interdependence has, however, never been demonstrated by experiment, nor are the clinical data sufficient to warrant the unqualified acceptance of this alleged correlation.

Dr. Mackenzie has found by experimental proof that all parts of the nasal mucous membrane are not equally susceptible to the impression by which reflex cough is produced, and, furthermore, that the cough or reflex area is probably limited to the mucous membrane covering the middle and inferior turbinated bodies and the posterior half of the septum. Now this is the area occupied by the erectile tissue of the nose, and it is hard to resist the conclusion, that this structure is in some way connected with the evolution of the reflex act, and that the peculiar susceptibility to irritation is to a great extent intimately associated with its physiological functions, whatever they may be.

Roughly speaking, the greater the congestion or inflammation, the more constant the reflex obtained. He has succeeded, however, in producing violent paroxysms of laryngeal cough by simply touching, with the aid of the rhinoscope, the posterior extremity of the inferior turbinated bone in a person whose nose was free from disease.

That the sensitive area is principally confined to the parts indicated, is rendered exceedingly probable by the following clinical facts:

(1) That in cases where reflex cough exists, these are the portions chiefly, if not solely, involved.

(2) That the act may be produced here at will by artificial stimulation of the parts invaded by the morbid process.

(3) That it may be dissipated by local applications to, or removal of the membrane covering the diseased surface.

(4) That foreign bodies, such as pins, lodging in this area sometimes give rise to cough, which latter is not observed when they become impacted in other portions of the nose.

(5) That polypi give rise to reflex phenomena only when they arise from or impinge upon the sensitive portions of the area.

(6) That where complete atrophy of the turbinated structures exists, as, for example, in ozæna, reflex cough is not present, nor can it be induced by artificial stimulation.

It is worthy of remark, that in a fair proportion of cases there are few, if any, symptoms which would direct the attention to disease of the nose, and this fact emphasizes the importance of examining the nasal chambers in all cases of the kind, even though the testimony of the patient may lead to neglect of their systematic exploration.

Dr. Mackenzie's clinical observation leads him to the belief that reflected irritation from nasal disease plays a not inconspicuous part in the etiology of laryngeal congestion and inflammation. The short, hacking cough and hyperæmia of the larynx which occur in acute coryza are probably more often explicable on the theory of reflex action than upon the extension of the inflammation to the laryngeal vestibule. In chronic coryza, on the other hand, the constant laryngeal hyperæmia induced by reflex nasal irritation, augmented, perhaps, by the frequent occurrence of cough paroxysms, may, if prolonged, eventuate in catarrhal conditions of that organ. In other words, on theoretical grounds, and clinical observation would seem to sustain them, it is legitimate to assume the existence of a *reflex laryngitis* evoked through the constant irritation of the vaso-motor centres from chronic nasal inflammation.

Clinical and experimental investigation would appear, then, to lead to the following conclusions:

(1) That in the nose there exists a definite well-defined sensitive area, whose stimulation, either through a local pathological process or through the action of an irritant introduced from without, is capable of producing an excitation, which finds its expression in a reflex act, or in a series of reflected phenomena.

(2) That this sensitive area corresponds, in all probability, with that portion of the nasal mucous membrane which covers the turbinated corpora cavernosa.

(3) That reflex cough is produced only by stimulation of this area, and is only exceptionally evoked when the irritant is applied to other portions of the nasal mucous membrane.

(4) That all parts of this area are not equally capable of generating the reflex act, the most sensitive spot being probably represented by that portion of the membrane which clothes the posterior extremities of the inferior turbinated body and that of the septum immediately opposite.

(5) That the tendency to reflex action varies in different individuals, and is probably dependent upon the varying degree of excitability of the erectile tissue. In some the slightest touch is sufficient to excite it, in others chronic hyperæmia or hypertrophy of the cavernous bodies seems to evoke it by constant irritation of the reflex centres, as occurs in similar conditions of other erectile organs, as, for example, the clitoris.

(6) That this exaggerated or disordered functional activity of the area may possibly throw some light on the physiological destiny of the erectile bodies. Among other properties which they possess, may they not act as sentinels to guard the lower air-passages and pharynx against the entrance of foreign bodies, noxious exhalations,

and other injurious agents to which they might otherwise be exposed?

Apart from their physiological interest, the practical importance of the above facts in a diagnostic and therapeutic point of view is sufficiently obvious. Therein lies the explanation of many obscure cases of cough which heretofore have received no satisfactory solution, and their recognition is the key to their successful treatment.

PAGET'S DISEASE OF THE NIPPLE.

Dr. Louis A. Duhring reports (*ibid.*) two cases of Paget's disease of the nipple, which he holds is not an eczema, but a peculiar disease with a malignant tendency. It must be distinguished from eczema, which it resembles, and from ordinary cancer, which it is altogether unlike in its earlier stages. It seems to occupy a ground having the characters of both diseases. The report is interesting as showing the natural history of the affection. This is peculiar. The course of the process is emphatically chronic. In both instances, moreover, the progress of the disease was insidious as well as slow. Nothing of a malignant nature was suspected until after the lapse of five and ten years. It may be said not to have manifested itself until after the process had been well established. In this respect the disease differs decidedly from eczema, where itching is one of the first signs noted. The circumscribed, sharply defined outline of the lesion, and the slightly elevated border, are also symptoms which do not obtain in eczema. The brilliant color of the lesion is striking, and is more marked than in eczema. The absence of the "eczematous surface," characterized by appreciable discharge or by vesicles, pustules, or puncta, coming and going from time to time, and the absence of exacerbations, so usual in eczema, may also be referred to. A point to which attention may also be directed is the infiltration, which is firm or even hard, but is not deep-seated. It is rather superficial. In eczema, on the other hand, it is soft.

The pains coming on later in the course of the disease, and the indurated, lumpy, or knotted lesions within the gland structure, of course point strongly to the malignant or cancerous nature of the disease, the existence of which cannot be doubted.

EXPERIMENTAL KERATITIS, ITS BEARING UPON STRICKER'S THEORY OF INFLAMMATION.

Dr. J. L. Minor, of New York, in a brief paper (*ibid.*), claims the establishment of the immigration theory; because the pus cells are similar in appearance to the white blood-corpuscles; they can be traced from the corneal periphery to the point of irritation; and having also gained access to the corneal tissue through the eschar, they are most abundant immediately around this centre, where we can still recognize dead, but intact, corneal corpuscles. The corneal corpuscles show signs of proliferation, some time after the cell immigration has set in; and this proliferation gives rise, not to pus cells, but to new corneal corpuscles, and they are strictly limited to the zone surrounding the dead corneal corpuscles; whereas leucocytes, or pus cells, in abundance, can be found in various parts of the cornea, at a distance from this point.

ENLARGEMENT OF THE BRONCHIAL GLANDS AS A CAUSE OF IRRITATION OF THE PNEUMOGASTRIC NERVE.

Dr. Edward T. Bruen, in the July number (*ibid.*), discusses the effects of enlargement of the bronchial glands in producing reflex irritation of the pneumogastric nerve.

The difficulty in the diagnosis of such cases consists in separating them from cases of early phthisis. One must rely mainly on the absence of the combination of physical signs required to render the presence of incipient phthisis certain. These are impaired percussion resonance, some form of bronchial breathing, possibly fine moist râles and increased vocal resonance. The last two physical signs are not present in cases of bronchial enlargement. Pain in the back and disturbance of the respiratory rhythm are not often present in phthisis. Hysteria, uterine, or spinal disorder may be eliminated by careful examination. Finally, the beneficial results of treatment may be appealed to to sustain the theory of the etiology of the cases.

A STUDY OF SOME RECENT CASES OF SERPENT VENOM.

The destruction of life from the bites of poisonous serpents is so extensive, the danger so insidious, and the fatal result follows so speedily, that at all times the subject has been one of especial importance. The scholarly study of our existing knowledge on the subject by Dr. Robert Fletcher, in the July number of the *American Journal of the Medical Sciences* will be read with great interest.

It will be observed that, in some instances, the conclusions of investigators seem to be antagonistic, and the remedies, which are all powerful in the hands of some, appear to fail in those of others. Still, great progress has been made in determining the mode of action of venom and defining its chemistry, and a reasonable hope seems permissible that a chemical antidote has been discovered which may save many lives.

EXTENSIVE INTERLOBULAR EMPHYSEMA AND ABSCESS OF THE LUNG, AFTER WHOOPING-COUGH, IN A CHILD OF TWO MONTHS.

In this interesting paper Dr. William P. Northrup, of New York, reports (*ibid.*) a unique case of extensive interlobular emphysema occurring in, and probably due to, severe whooping-cough. Complicating this was suppurative interstitial inflammation. After a long and careful search, the author states that he was unable to find the record of a similar case.

AN ANOMALY OF THE HUMAN HEART.

Dr. Horace Grant, of Louisville, reports in the July number (*ibid.*) a remarkable anomaly of the human heart, interesting not alone from its striking singularity, but as well from its clinical importance.

In a post-mortem examination of a mulatto girl, aged 16 years, the right ventricle was found to communicate directly with the aorta, no pulmonary artery was to be seen attached to the heart. The left auricle was normal, the left ventricle presented only one half the usual attachment of the aorta. In a word, both ventricles opened with equal freedom into the aorta. At the pericardial attachment to the aorta two arteries were given off, each about one fourth of an inch in diameter; they passed right and left backward from the front of the aorta, and evidently supplied the blood to the lungs. This curious anomaly is discussed in connection with the clinical symptoms observed during life.

THE RADICAL CURE OF VARICOCELE.

Dr. H. Lawrence Jenckes, of Glen Haven, Wis., presents in a concise way (*ibid.*) the advantages of Williams's varix clasp in the treatment of varicose spermatic veins. He considers it superior to any other operative procedure for the radical cure of varicocele, and its simplicity, its freedom from danger and pain, and its success render it preferable.

ORIGINAL TRANSLATIONS.

INFANTILE CLINIC, Hospice des Enfants-Assistés. M. PERROT. Typhoid Fever in Children. Translated from *Le Progrès Médical* of June 30th, 1883, by H. McS. GAMBLE, M.D., MOOREFIELD, W. VA.

Symptomatology.—In this lecture, I will endeavor to indicate to you above all the symptomatological peculiarities that age involves, for it is this that we ought to always have in view in this study and which ought to serve as our guide ; it is this which, according to the case, gives to the same symptom a peculiar physiognomy. I will not present to you, then, after the example of some authors, a general description of typhoid fever among children ; this description would necessarily be incomplete, since it could not be applicable to all the periods of childhood. I will equally guard against drawing for you a picture of the different clinical forms of this disease, as is done for adults, for it is precisely therein that it differs above all at the two epochs of life which I am comparing with each other. I will study, then, each symptom, not in itself, but in relation to the age, and for this the anatomical order appears to me the best.

Digestive Apparatus.—I am going to talk to you about an affection which manifests itself more frequently at the beginning of typhoid fever in the early years of life than in adults—I refer to angina.

Sometimes its existence is observed at the same time as that of the first general phenomena ; and there is no doubt that it contributes to their intensity, especially as regards the initial hyperthermy.

It is characterized by a diffused, lively redness of the tonsils, of the veil of the palate and of the fauces ; these regions are frequently covered with a pultaceous exudation, and are the seat of an acute pain during the movements of deglutition. These symptoms last two or three days on an average ; but they may persist during the whole course of the fever.

The tongue, in children, contrary to what is observed in the adult, is habitually larger, moist, with a coating slightly marked at its centre and at its base, very exceptionally it is dry, cracked and dark ; then the subject must have reached the border of adolescence. Likewise, the teeth and lips are almost never fuliginous. Much less frequently than at a more advanced age, we find upon the gums and in the culs-de-sac of the lips that whitish coating, of an epithelial nature, which, according to the remark of M. Besnico, is always a sign of adynamia. Vomiting, which often marks, as is known, the début of fevers in children, is here much more frequent than in the adult. It recurs several days successively, sometimes continuing through the whole course of the disease. (Vogel.) Ch. West considers it as belonging especially to grave forms of the disease ; I do not concur in this opinion, and I do not believe that this symptom has any more importance here than in scarlatina or measles.

The actions differ much according to the age of the patients. Those of nursing children, slightly odorous, are ordinarily diarrhœic and, as in enteritis, are bilious, mucous, with particles of caseine and a good deal of water. From eighteen months to three or four years of age, sometimes even later, diarrhœa is rare, at least, it is not constant. The matters are habitually solid, and constipation may be observed.

Diarrhœa is often established after an attack of vomiting or after a purgative. It differs but little from that of the adult, though it is less offensive ; the very fluid matters separate on rest in a vessel into two layers, the upper aqueous and almost transparent ; the other composed of white or serous flocculi.

It is quite difficult to give a satisfactory explanation of the states so differently presented by the actions, according to the age of the patients. The following are all the remarks thereupon that I am able to offer you. If nursing children have the diarrhœa in the course of typhoid fever, it is because, among them, this accident shows itself with the greatest facility ; the least morbid derangement reacts upon their intestine and determines a sort of indigestion. The intestinal disturbances are quite different among children of more advanced age ; and, as in them the patches of Peyer are generally but little diseased and very rarely ulcerated, as I will tell you later on, the intestinal contents remain solid. It is, in fact, to the tumefaction, to the irritation and, above all, to the ulceration of the closed follicles of the intestine, isolated or aggregated, that we must attribute the diarrhœa. Add to this, in children of the second infancy, a certain degree of intestinal paresis, and you will understand why constipation is frequent among them.

Tympanites is rare ; however, it is observed in very young subjects whose intestinal muscles are deficient in tonicity. Later on, the abdomen is usually supple or very slightly distended. Often it presents no change in volume ; finally, it may be flat, and even retracted, as I have witnessed in grave cases. The iliac fossa is rarely painful on pressure, the intestinal lesions at this region being but slightly pronounced, and also, because children locate pain badly.

Speaking of the tumefaction of the spleen, Vogel says that the splenic dulness may be doubled and even tripled in extent ; I do not believe that this is a constant fact. Besides, this phenomenon has no great importance, for splenic enlargement takes place in all infectious diseases, and particularly in fevers. (Hesse.)

The appetite is rarely diminished in nursing children ; they nurse ordinarily with avidity, in consequence, no doubt, of the increased thirst. In the second stage of childhood, anorexia is far from being complete, they demand food quite often, their thirst is not very acute.

Cutaneous Phenomena.—The lenticular rose-colored spots are ordinarily few and may be wanting altogether, especially in very young subjects ; they show themselves, according to M. Cadet de Gassécourt, in about two-thirds of the cases ; this is the proportion that my own observations confirm. Their characteristics are less marked than in adults ; it follows that they are less typical. Slightly salient, small, light colored, they are generally very fugitive ; they are found upon the abdomen, upon the lateral portions of the trunk, upon the nates and the upper part of the thighs. It is not rare to find only one or two, and it is exceptionally that they show themselves in great numbers ; in two patients, I have found them confluent, and they were visible on almost all parts of the body.

Bednar and Büchner speak of spots of a darker shade; I have never seen them, which is easily understood, if it is true, as M. Duguet contends, that they always result from the presence of certain parasites (pediculi pubis), from which children are exempt.

Sudamina, which occupy especially the base of the chest and the abdomen, are ordinarily observed only on children who have passed the period of first dentition. When the fever abates, a furfuraceous desquamation of the epidermis takes place.

Sloughs upon the sacrum are excessively rare, and are never observed upon nursing children who present an erythematous redness upon the parts soiled by the urine and fæces. Sometimes even this erythema is but slightly developed.

Herpes labialis is exceedingly rare. Seidel has observed it only twice in fourteen cases; and Friedreich twice in eighty.

Circulatory Apparatus.—Epistaxis is as rare in children as it is common in adults. According to my observations, it appears later. Out of thirteen patients, three were attacked with it. They were ten, eleven, and thirteen years of age. In the last it showed itself twice, the fourth and the eleventh days. Very young subjects are entirely exempt from it.

The evacuations from the bowels sometimes contain bloody striæ; but intestinal hemorrhage, properly so called, is entirely exceptional. I was called last year, in consultation with M. H. Roger, to an infant three years old, who had succumbed to a profuse intestinal hemorrhage after having passed by the bowels more than three tumblersful of blood. These intestinal hemorrhages, observed by a large number of clinicians—Rilliet and Barthez, Taupin, Szokalski, Hase, Ferber—constitute veritable complications. I have thought best to refer to them in the symptomatology in order to avoid considering them hereafter.

I come now to the study of the pulse, the observation of which has enjoyed such great favor until the introduction of the clinical thermometer. The least cause suffices in children to modify it, especially in its rythm; rest, emotion, exercise, wakefulness or sleep raise or lower the number of pulsations in such proportions that one might believe in a pathological state when the health is perfect. It is, then, a deceptive phenomenon, and a mean cannot be fixed for its frequency in typhoid fever. Dicrotism is exceedingly rare in childhood (Bagenski). Vogel has observed it only a single time under ten years of age. For my part, I have found it in a child thirteen years old and in one fourteen, that is to say very near adolescence. The number of pulsations does not always bear a direct relation to the temperature; there may be a very marked elevation of the temperature without acceleration of the pulse. (Gerhardt.) Quite frequently cardiac irregularities are observed which extend to the radial artery and show themselves even in convalescence. I have especially noticed them in little girls. Moreover, they are not peculiar to typhoid fever, and show themselves in the course and, above all, in the convalescence from almost all acute diseases. Their existence ought by no means to modify the prognosis.

Respiratory Organs.—These are not as generally affected as at other ages, and the less so the younger the child. After ten years, they are subject to the same attacks as in the adult. Most frequently there exists a bronchitis, characterized by sonorous and mucous râles. Pulmonary congestion is much more rare.

Urine.—This presents in the child no notable peculiarities. You ought, besides, to understand how difficult it is to study it, especially in nursing children. In children of the second period, albumen is frequently found, but of a transitory character; it bears a direct relation to the gravity of the disease. In a general way, it may be said that dothinenteritis destroys the blood globules less than other acute diseases; this is true, particularly in children; thus their urine does not contain urohæmatin and urochrome (chromatogenous substances resulting from the normal destruction of the hæmoglobin) except in normal proportions, and contains only traces hardly appreciable of hémaphéine and uroérythrine (pigmentary matters resulting from the exaggerated destruction of the globules). For all these details, I refer you to the inaugural thesis of M. A. Robin (Paris, 1877).

Nervous System.—Nervous disorders are generally not strongly marked in the child. Nursing children seem to be entirely exempt from them, everything being limited to a little uneasiness, heaviness and somnolence outside of the usual hours of sleep; there is nothing typhoid in their facies. At three years and even in the years that follow, the participation of the nervous system in the disease is still very slightly pronounced. Cephalalgia is very rarely complained of; be it that it does not exist, be it that, children, who locate pain badly, do not know how to indicate it. There is a little heaviness during the day, rarely stupor, never a comatose state. Delirium is more common; it is especially nocturnal; I have observed it in three children, one ten years of age, the second eleven, and the third thirteen. It is a delirium which in action resembles that of old men; the little patients get up, dress themselves, circulate about the chamber, get into bed with their neighbors. There is more rarely delirium of words. In certain cases of a grave character convulsions have been observed, and in one child who had had them, Ch. West observed a hemiplegia which disappeared little by little. Transient meningitic symptoms have also been noticed—strabismus, irregularity of the pupils, contraction of the eyebrows, pain in the eye upon pressure, sudden flushing of the face, profound coma. Bagensky notices the hydrocephalic cry, cutaneous hyperæsthesia, stiffness of the neck and limbs, opisthotonos and general tremulousness; but these are clinical curiosities and, properly speaking, exceptions. To terminate this enumeration, I ought to say that trembling of the tongue is generally quite marked.

All authors are astonished at the so inconsiderable part that the nervous system plays in the symptomatology of typhoid fever in children. The cephalic and nervous symptoms, says Vogel, are not as pronounced in children attacked with typhoid fever as the general irritability at this age would lead us to suppose. M. Archambault testifies the same astonishment in view of the impressibility of the nervous system in children. It is worthy of remark, says Steber, that at an age when the nervous system is so impressible, when not only grave diseases, but sometimes simple indispositions are accompanied by convulsive movements, the nervous symptoms of typhoid fever should be less intense than in the adult. All these reasonings rest upon an incorrect notion of the anatomy and physiology of the nervous system in the early years of life.

Delirium and coma are cerebral troubles; but the brain is a very imperfect organ in young children, and its reaction is very feeble, sometimes even under the influence of considerable lesions. Just in proportion as it is perfected, the morbid phenomena which betray the functional perturbations, are accentuated and approach those which are manifested at a more advanced age. In young children, it is not the whole cerebro-spinal apparatus which is impressible, but only certain regions of this apparatus—the rachidian bulb and the spinal cord—because their development being much more advanced than that of the brain, they enter upon their functions sooner than it, and react under the influence of the disease, while it remains silent. This reaction shows itself habitually in convulsions, a phenomenon truly common in infancy.

This is how I explain the absence of complications, or at least their attenuation in the course of typhoid fever in young subjects. As to the clinical fact itself, it is of the highest importance from a nosographic point of view, for it differentiates, more than any other symptomatic manifestation, the dothinenteritis of children from that of adults.

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ORIGINAL ABSTRACTS.

Three-Pound Placenta.—Dr. DeWitt C. Romaine (*Medical Record*, May 5, 1883) reports a case presenting the following elements of interest: 1st. Postponement of menstruation until several months after the birth of the first child. 2d. Menstruation occurring only twelve times in twelve years. 3d. Birth of nine children during twelve years. 4th. Placenta weighing three pounds while child weighed but seven pounds.

Chancre between the Toes.—Leloir reports (*Annales Dermatologie et de Syphilis*, Nov. 10, 1882) the case of a medical student who had a chancre situated between the right second and third toes. The patient suffered from eczematous fissures between the toes, and acknowledged contact of these with the lips of a woman who had buccal mucous patches.

Artificial Auditory Canal in Congenital Deficiency.—Kiesselbach (*Archiv für Ohrenheilkunde*, Band xix., 2 and 3) reports the case of a female aged six months, otherwise well formed, in whom both auricles presented the appearance of being pressed forward and bent over by a force working from behind, the malformation being most marked on the left side. In attempting to discover or form an external auditory canal, Kiesselbach made an incision through the little groove behind the rudimentary tragus into the subcutanous adipose tissue. Carrying this incision down to the periosteum, not a trace of any auditory canal was found. On cutting carefully downward as far as the lower squamous border the introduction of a fine probe discovered a narrow cleft, which was widened forward and backward until the probe in all directions encountered firm resistance. To prevent the readhesion of these wall-surfaces, the lobe was detached from the auricle and its length doubled by an incision splitting its surface from the anterior half of its insertion nearly to the posterior border. This flap was thrust into the wound, so that its skin-surface was turned toward the annulus tympanicus, and its raw surface toward the wound's lower and outer surface. The flap was fastened in place by means of quilted sutures. It was intended to later introduce a small tube to keep the skin-flap better in place. The child was removed from observation before this could be done.

Calabar Bean in Constipation.—Dr. Leyden, of Berlin, Germany (*Deutsch Medic. Woch.*), demonstrates that calabar bean extract has a very rapid and sure action in atonic states of the intestine, characterized by flatulence, meteorism occurring just after meals, a sensation of weight in the epigastrium, and habitual constipation. It is given in this form:

℞. Ext. Physostigma..............................gr. $\frac{1}{7}$
Glycerinæ .... ℥ i.

M. Et. S.—Ten drops daily. The patients are greatly relieved, but the benefit is of course rarely durable, and if the remedy be continued any length of time, toxic accidents are apt to occur.

CONGENITAL DEAFNESS.—Moos (*Archives of Otology*, volume xi. 4) found that the sexes were equally represented. The ages of the cases examined were between one and seventeen years. In fourteen cases there was no cause assigned; in seven cases hereditary predisposition was present; in ten cases parental consanguinity; in three, hereditary predisposition and parental consanguinity; in one syphilis; in one intemperance of the father; in one premature birth; in one scrofulosis of mother and child. Direct heredity was not found, while in seven cases hereditary disposition could be proved. Moos, like most modern ophthalmologists, believes that almost all chronic parenchymatous corneal inflammatory affections complicated with disturbances are of syphilitic nature. Rachitis is an important cause of early anatomical alterations in the labyrinth. Brachycephaly and microcephaly, besides defective development of various parts of the brain, produce atrophy of the petrous bone, a cause of congenital deafness in such cases. Studied from the last standpoint, the subject would have been of special interest.

JABORANDI AND EUCALYPTUS IN CROUP.—Dr. M. L. Doon (*Medical Brief*) says that fluid extract jaborandi and eucalyptus, each ten to fifteen drops every half hour, will cure nearly every case of membranous croup. A little more experience will, however, lessen Dr. Doon's positiveness as to this curability. The eucalyptus may do good, but the jaborandi is likely to do harm.

CUTANEOUS EXCRETION OF NITROGEN.—Dr. J. Byrne Power (Dublin *Journal of Medical Science*, May, 1882) has experimented on himself and others, to determine the power of the skin to excrete nitrogen. This has been a much-disputed question—some investigators holding that the skin does not excrete nitrogen, while others maintain the opposite view. In 1858, Funke, from experiments on himself and two pupils, claimed that he found nitrogen existed in sweat as urea. Fleming substantiated these results by experiments. Power believes that under ordinary circumstances the excretion of nitrogen by the skin is very small indeed, even in cases of gout and Bright's disease. Though he found nitrogen was excreted by the skin in all cases, yet the quantity was so small that the cutaneous excretion can never act vicariously for the renal to any appreciable extent.

IODOFORM IN DIPHTHERIA.—Dr. J. Bates, Paris, Ohio (*Medical and Surgical Reporter*, Jan. 13, 1883), says that "iodoform" dusted on the diphtheritic membrane once or twice daily is a wonderful curative agent. The fetor is completely obliterated, and the disease very much abbreviated. Tincture of iodine internally is a good addition to this treatment.

SYRUP OF NITRE AND POTASSIUM IODIDE.—These two drugs are sometimes regarded as incompatibles, and in a few recorded instances where both after mixing have been placed in a tightly-corked bottle, explosion has occurred. The following conclusions of W. M. Searby (*Druggist*, June, 1883) seem to place the responsibility for such occurrence on the quality of the drug and on poor pharmaceutical manipulation. 1st. No decomposition will occur if the spirit of nitre is fresh and good. 2d. If the spirit of nitre be acid, the decomposition is instantaneous. 3d. If after having become acid, it has again been neutralized by an alkali, it will not of itself decompose the iodide. 4th. After it has been thus neutralized, a very small amount of acidity from another source will produce the decomposition. 5th. That nitrous acid in the spirit of nitre is the disturbing cause.

BILATERAL DEAFNESS FROM MUMPS.—Knapp (*Archives of Otology*, vol. xi. 4) reports the case of a woman aged twenty-five, who six years previously had had an acute attack of bilateral mumps, lasting two weeks. Hearing became affected on the seventh day, was completely lost on the eighth, and has so remained. There was pain in ear and head, but no discharge. Great dizziness made its appearance, which lasted for months, and has never completely disappeared. Tinnitus has not existed at any time. Examination revealed absolute deafness on both sides. Physical examination of the ears, eustachian tubes, and naso-pharynx showed these to be perfectly normal. All the symptoms point to a labyrinthine lesion, but whether of a serous, hæmorrhagic, or purulent inflammation, cannot be determined. A direct continuation of the disease through the auditory canal and tympanum, or through the facial nerve canal, is, in Knapp's opinion, improbable. The affection, he believes, is of metastatic nature.

GONORRHŒAL PRURITUS URETHRÆ.—Dr. W. L. Axford (*Journal of Cutaneous and Venereal Disease*, April, 1883) states that in an intense itching of the urethra often observed during the third stage of gonorrhœa, treatment was unavailing until it was discovered that urethral distention gave relief. As the passage of a catheter, however, increased the inflammation, the following expedient was found successful: The patient was directed to hold the end of the penis firmly between the thumb and, index in such a way that no urine could escape, then attempt to micturate thus thoroughly distending the urethra, and keeping it so for one or two minutes, the sensations of the patient being the guide to the amount of force required.

VARIETIES OF CARDIAC DISEASE.—Martin (*Revue de Médecine,* Feb., 1883) divides all heart affections into two groups, viz., those of valvular origin and those of vascular origin. These groups resemble each other in that each has an acute and a chronic stage, the latter being almost always a consequence of the former; in both groups, too, the original lesion, whether it has a chief valvular focus, or depends upon a number of minute vascular foci, may be the starting-point of a twofold imflammatory process, partly muscular and partly interstitial. The former process is always compensatory. Whether the latter process has commenced in one cardiac valve and spread thence to the muscular wall, or has commenced as a periarterial lesion, is of little moment, for the ultimate result is the same diminution of the power of the heart, and finally asystolism. Granting that no hard and fast line can be drawn between the two groups, or that ultimately it be shown that all cardiac lesions originate in vascular change, this classification might be retained with advantage, as corresponding with differences in etiology and mode of evolution.

EXTIRPATION OF A PULMONARY HERNIA.—De los Mozos (*Revista de medicinia y cirurgia practicas*) reports the case of a young man, 17 years old, who received, in a fight, a large stab wound, three centimeters in width, between the fifth and sixth ribs, on the left side, and through it protruded a portion of the lung as large as a small orange. The patient was pale, almost in collapse, with filiform pulse. He coughed incessantly and had a sanguinolent expectoration. He could lie only on the right side. After forty-eight hours, however, his condition improved wonderfully, and this improvement continued during the following days. As the pulmonary hernia could not be reduced, and threatened to become gangrenous, the physician in charge extirpated it, using the actual cautery to arrest hemorrhage. The patient made an excellent recovery. The wound cicatrized well, and no deformation of the thoracic parietes or alteration in the respiration ensued. The case, while not unique, is somewhat exceptional.

DEATH OF THE FŒTUS FROM HÆMORRHAGE.—Dr. Valenta reports (*Memorabilien*) a case where the fœtus bled to death during parturition by a rent in the umbilical vessels, which crossed transversely over the os. In a woman delivered of her second child at full term, before the labor pains began the waters broke, and from that time up to the completion of labor, which was of ten hours' duration, there was a continuous bloody discharge. At no time was the stream of a pumping character. The placenta was about six inches in diameter, situated high up in utero. The umbilical vessels, given off from its lower margin, before uniting to form the cord, ramified in the surface of the chorion for about four and one half inches. The cord measured sixteen and one half inches. There were four veins passing from the placenta, which soon united to form two venous trunks, one of which, the smaller, arched outward before uniting with its fellow to form one umbilical vein. At the point of junction, and at a small distance from it, were two rents. The two arteries united to form one trunk on piercing the chorion, which immediately gave off a small branch that coursed along with the above-mentioned smaller veins. This also was torn across, which shows the necessity of examining the placenta in case of death of the fœtus.

SMALL-POX CURES INSANITY.—Dr. J. G. Kiernan (*American Journal of Neurology and Psychiatry*, August, 1883), after passing in review the cases recorded in the literature in which variola exercised a beneficial influence on insanity, reported the following case as coming under his own observation. During the year 1875 small-pox made its appearance in the New York City Asylum for the insane among the work-house population, and one of the patients had to be removed to the small-pox hospital in consequence. This patient, a case of chronic confusional insanity, died there after some weeks' illness, during which he was completely rational.

MASTURBATION AS A CAUSE OF FEMALE DISEASE.—Dr. J. M. Chapman (*American Journal of Obstetrics*, June, 1883) concludes that masturbation exists to a considerable extent among women, and is accomplished as a rule by manipulation of the external parts. The use of foreign bodies is exceptional in Scotland. Decided and constant changes of the external organs of generation result from its long-continued practice, whose presence is clear evidence as to the existence of the habit. Judicious questioning attended by the avoidance of cant will often obtain admissions. Apart from any mechanical dilating means, masturbation may produce marked vaginal relaxation. Retroversion of the uterus in an unmarried female is a good hint as to the practice of masturbation. Oöphoralgia and oöphoritis may be induced by the habit, as well as other gynic diseases.

TRICHLORPHENOL IN ERYSIPELAS.—Dr. N. O. Yurinsky, Alexandertown Hospital, St. Petersburg, reports (*Ejened. Klin. Gazeta*, 1883, No. 5) four cases of erysipelas (three idiopathic, one traumatic) successfully treated by painting the affected parts with a solution in glycerated trichlorphenol (5 to 10 per cent). The painting was repeated twice daily; each time the parts freshly covered with cotton-wool retained by means of a roller. In two cases, swelling, redness, tension, and tenderness of the integuments disappeared after two paintings (on the second day of the treatment); in the remaining two, after six. In all cases the erysipelatous process did not spread after the first application. The temperature fell to normal in one case on the second day of the treatment; in one, on the third; in the other cases, which were complicated with relapsing fever, no change in the temperature was observed.

QUEBRACHO IN DYSPNŒA.—*El Sentido Catol. en las Ciencias Med.*, March 1, 1883, claims that, "1. Quebracho diminishes the frequency of the respirations and cardiac contractions. 2. It strengthens and regulates cardiac contractions, either directly or through the nervous system. 3. This action is evident and immediate. 4. It has a manifest antidyspnœic action. 5. In nervous dyspnœas it must be tried in a greater number of cases. 6. It produces the same effect in dyspnœa from acute pulmonary affections. 7. Its prolonged administration produces no alteration in other organs or functions."

INFLUENCE OF ERYSIPELAS UPON SYPHILIS.—Dr. Strack (*Centralblatt für Klinische Medicin*, March 1, 1883) reports several cases in which the disappearance of gummata was promoted by an intercurrent attack of erysipelas. This beneficial influence is exerted in two ways. The first effect is that which erysipelas holds in common with other acute fevers. The second is to be referred to the local inflammatory processes. The increased flow of blood to the diseased parts causes a breaking down of the cell-infiltration, which becomes thus more readily absorbed. The most potent influence, judging from the results of Otis's investigations ("Physiological Pathology of Syphilis)" was exerted in the manner last described. According to Dr. Dauchez (*L' Union Medicale*), erysipelas exerts a beneficial effect upon a number of diseased tissues by exciting in them a healthy action through active inflammation. It modifies favorably some ulcers, especially phagedenic chancre and lupus. Fungous tumors are destroyed, old suppuration dried up, and elephantiasis cured. This action is rarely observed, but the possibility of its occurrence should be borne in mind.

PULSATILLA IN AMENORRHŒA FROM COLD.—F. W. Putnam, Binghamton, New York (*Druggist*, May, 1883), states that pulsatilla in five to ten drop doses, thrice or four times daily, answers well in amenorrhœa from cold, and is without effect on the gravid uterus.

A NEW MYCOTIC DISEASE.—Mycotic diseases or affections resulting from fungi are exceptional, and the following instance reported by Baltus, Lille, France (*Lancet*, January 27, 1883), is of interest. The affection is prevalent among the reed workers, chiefly those who manipulate the stems of Arundo donax. One case has lately been very carefully studied by Baltus. A man, aged forty-seven, and his son, aged seventeen, after several hours' work loading a cart with reeds, which had been cut a year before, and kept in a damp trench, were seized with painful irritation of the nose, eyes, and throat, followed by erythematous swelling in the same parts, which extended to the hands, trunk, and genital organs. A number of acuminated pustules appeared on the red swollen areas, the conjunctivæ were injected, the eyes streaming, and there was a slight cough. The next day three adults and a child, who had come in contact with the reeds deposited on the farm, presented the same symptoms, although in slighter degree. Moreover four cats and three dogs which had frequented the same reeds presented red painful crusts about the nostrils. In every case the disease ran a mild course, and disappeared in a few days, under the influence of wet compresses. An examination of the reeds showed that they were covered with a mould consisting of spores and mycelium of a fungus, Sporotrichum dermatodes, which had developed under the influence of the prolonged exposure to moisture. The spores had been shaken off as dust during the manipulation of the reeds, and had irritated the exposed parts of the skin on which they had lodged. Although usually trifling, the malady may sometimes assume a severe form, lasting nearly a fortnight, and has been known to cause the death of an old man seventy-one years of age. It may be prevented by washing the reeds before their manipulation.

PUERPERAL INFECTION THROUGH NIPPLE EROSION.—The possibility of septic infection through nipple and genital wounds has received very little attention. Kaltenbach (*Deutsche Medizinal Zeitung*, March 1, 1883) regards this occurrence as probable, from the etiological relation between nipple erosions and mastitis, and from the beneficial effects claimed by Hausmann from the treatment of fissures by carbolic acid. Spiegelberg has shown that mastitis may arise from infection through the nipples and openings of the lacteal ducts. Kaltenbach goes further, and regards every case of mastitis as of septic origin. That the greatest possible cleanliness of the child's mouth, the nurse's hand, and the nipple itself is necessary, is self-evident.

FEVER FROM FECAL ACCUMULATION.—A rise of temperature is often observed in women after childbirth or ovariotomy, subsiding after a free catharsis. In addition to the fever there is frequently evidence of peritoneal irritation; pain on pressure, meteorism, elevation of the diaphragm, cyanosis, and rapid pulse. Dr. Küstner, in a series of observations upon women after ovariotomy (*Zeitschrift für Klinische Medicin*, Band v.) found that the temperature rose when the fecal matters had passed into and distended the rectum. From increased peristalsis and from direct pressure of the distended rectum, the wounded surfaces were disturbed and a resorption of the secretions induced. This gave rise to fever. Perhaps also the retained fæces caused a more rapid decomposition of the secretions. This explains similar conditions in the puerperal state, and Küstner asserts that peri-uterine exudations are often due to the same cause. A more probable explanation lies in the fact that fever is a nervous phenomenon due to interference with the heat-regulating centres. Constipation *per se* would produce nervous symptoms in predisposed persons, and fever is not unlikely to be one of these. The rapid subsidence on catharsis is not explicable on the resorption theory.

CEREBRAL COLOR CENTRE.—Samelsohn (*Centralblatt für die Med. Wiss.*, p. 581, 1882) says that (*Alienist and Neurologist*) the existence of a cerebral color centre turns upon the question whether there are cases of double-sided hemianopia, in whom the sense for space and light is perfectly intact, while on the respective half-fields of vision the color sense is totally extinguished. Steffen (*Gräfe's Arch.* iv. Band xxvii., Heft 2, p. 6) has found such a case, and if one similar case exist it is a clear proof that in the brain the space centre and the color centre are divided, and there is a special centre for each of these senses. Samelsohn had a case exactly like Steffen's where, in consequence of an apoplectic seizure, the sense of space and light was intact, but where color sense was utterly extinguished. He would have published this case before Steffen's article only he had hoped to supplement it by a post-mortem. Under treatment absorption was established, all the symptoms disappeared, and then a second seizure due to an enormous effusion rapidly resulted in death, leaving the brain in a condition in which finding this centre was out of the question. Bjernum (*Hospitals Tidende*, January 18, 1882) reports an additional case in which the patient had total color-blindness in the left half of the field. The margin passed precisely through the point of fixation, in a vertical direction. There was an acute brain trouble—at least the patient complained of severe headache, and died suddenly. There was no autopsy. Brill (*Journal of Neurology and Psychiatry*, 1882, p. 367) reports a case, supplemented by an autopsy, from which he concludes that the appreciation of color in the intellectual sphere is partly located in the calcarine fissure and its neighborhood. Brill cites a case reported by Boys de Loury of fracture of the base of the skull resulting in subsequent hemianopia and loss of color sense; also a case by Cohen in which cerebral concussion resulted in a loss of color sense and limitation of the visual field; and a case of Förster of a syphilitic patient with hemianopia accompanied by slight cerebral symptoms, from which he recovered with a limitation of the perception of red in the previously hemianopia field. Schneller (*Gräfe's Archiv*, Band xxviii., Heft 3), from a like case to that reported by Brill which was supplemented by an autopsy, comes to very similar conclusions.

ON THE REFLEXES IN CHILDHOOD.—Eulenburg (*Neurologisches Centralblatt*, May, 1882) has been studying the reflexes among 124 children. He has found (*Alienist and Neurologist*) the knee-jerk wanting, in seven cases on both sides and in three cases on one side only. Eulenburg claims that the frequent absence of tendinous phenomena opposed to the constancy of mucous and cutaneous reflexes is not exactly an argument in favor of the reflex nature of the former.

NERVE-ENDINGS IN THE SKIN.—That all the cutaneous nerves do not stop at the epidermis has long been well known. It was first demonstrated (*Alienist and Neurologist*, July, 1883) that in the lower animals many nervous filaments penetrated the epidermis, where they terminate in club-shaped extremities. The same was afterward shown to be the case in man. Pfitzner describes ("Morphol. Jahrb.," Bd. vii. p. 726) nerves in the epidermis of the larvæ of the frog and salamander, at a certain period of development, that terminated after penetrating the cell-wall of each prickle cell, with small bulbous extremities near the nucleus. Every cell contained two terminal filaments. He found the same to exist in the epidermis of the human subject. Unna has recently (*Monatsch. f. prakt. Dermatol.*, Oct., 1882) corroborated Pfitzner's results. A striking feature is the invariable association in every cell of pairs of the terminal bulbs. They do not appear to be branches of one twig, but usually approach the cell from different directions.

RAPIDITY OF NERVE FORCE.—Réné (*Gazette des Hopitaux*, No. 46, 1882) has found the rate of the transmission of nerve-force in man, as a mean, to be twenty metres per second. The rapidity of nerve-force (*Alienist and Neurologist*, in nerves, either sensory or motor, exhibit considerable difference according to the individual, the procedure, the region excited, or even in the same individual. The rate of transmission increases with the intensity of the excitation, especially in sensory nerves. In motor nerves, when the excitation becomes strong, the rapidity diminishes. In locomotor ataxia there is a considerable retardation in the transmission of nerve-force. In the beginning of progressive paresis the rate is more rapid than normal.

STRUCTURE OF THE SPINAL CORD.—Dr. Laura (*Alienist and Neurologist*, July, 1883) observes that the acquisition of the medullary sheath is the distinctive character of all processes from nerve-cells that become nerves. He has endeavored to trace these processes or nerve-fibres from their cells to their ultimate distribution—more particularly with reference to the cells of the anterior cornua, of the Stilling's nucleus, or Clarke's posterior column, and of the posterior cornua. He concludes that: 1. The cells of the anterior cornua send their nerve-processes, in the greater number of instances, into the anterior nerve-roots. 2. Fibres from different points of both of the anterior and posterior cornua contribute to the formation of the anterior commissure. 3. The cells of the nucleus of Stilling (posterior column of Clarke) supply nervous prolongations which pass at first inward, then after a long course in the same direction fold backward, and go to form a large bundle passing into the lateral column. 4. The lateral column receives fibres from different points of both anterior and posterior cornua. 5. The cells of the posterior cornu furnish processes which pass in various directions: *a*, into the anterior commissure; *b*, directly to the anterior roots; *c*, into the lateral columns; *d*, into the posterior columns; *e*, across the middle line behind the central canal into the opposite cornu. 6. Cells are found in the cord which send nerve-processes in opposite directions, and act intermediately in the change of direction of the fibres.

ANTISEPTICS AFTER LABOR AND ABORTION.—Dr. Wylie (*New York Medical Journal*, June 23, 1883) comes to the following conclusions: That a uterus after an abortion should be looked upon precisely as surgeons to-day regard a punctured wound, and just as likely to be poisoned and equally dangerous when neglected or badly treated. That septic matter must be excluded with great care, and that antiseptics are of great service in preventing infection. That perfect drainage is just as essential as in a severe contused and punctured wound. Not only versions, and especially flexions, may cause retention of the lochia, but contraction and swelling of the os internum very frequently is an active cause in preventing constant free drainage. That when septicæmia has begun within a reasonable time, within ten or twelve hours after the first chill or high temperature, almost all cases may be cured by perfecting the drainage, and by washing out the cavity either of the vagina or of the uterus, as the case may be, by frequent douches of a solution of carbolic acid of a strength of from 1 to 40 to 1 to 20, the latter being rarely needed. That general medication, except so far as it keeps up the strength of the patient, has little or no direct effect, and that the washing out with carbolic solution not only removes or renders inert the organisms on the surface of the wound or cavity, but, in all probability, sufficient carbolic acid is absorbed locally into the surrounding tissues to weaken if not stop the active reproduction of the micro-organisms, or the generation of poison associated with them. It is possible that antiseptics, such as pure carbolic acid or phenol, or mercuric bichloride, may be injected hypodermically to such an extent as to neutralize the bacteria or poison in the blood, without doing serious harm to the patient, or that large quantities of alcohol may antisepticize the blood. This has not yet been proven.

Alcoholic Anæsthesia.—Dr. L. D. Mason (*American Journal of Neurology and Psychiatry*, February, 1883) states that there are two forms of alcoholic anæsthesia. First. A condition of anæsthesia following the administration of a certain quantity of alcohol. The state of the person borders upon and may lapse finally into alcoholic coma, although it is not necessary that the patient should be profoundly under alcoholic influence to manifest an anæsthetic condition. This form of anæsthesia is general in character and seems to affect not only the integumentary but the deeper tissues of the body as well. It is transitory in its effects and passes off as the alcohol is eliminated from the system, the patient recovering his normal sensory condition when this occurs. Second. A condition of anæsthesia due to the long-continued action of alcohol on the nervous centres. This form is partial in character, affecting a limited space ; it is, however, of comparatively long duration, lasting some weeks or months, the patient slowly recovering his normal sensibility after a period of abstinence and the use of appropriate therapeutic measures. A relapse is likely to occur should alcohol again be resumed. Judging by his résumé of the literature of the subject, he does not seem to have met with a report of the valuable practical results of Dr. J. E. R. Link (*Gaillard's Medical Journal*, October, 1882), who at the late meeting of the Tri-State Society performed an amputation of the thigh, the patient being anæsthetized by whiskey, and who has been very successful in the use of alcohol as an anæsthetic.

Motive as an Evidence of Sanity.—Dr. J. G. Kiernan (*American Journal of Neurology and Psychiatry*, February, 1883), after an analysis of the motives of lunatics for assaulting asylum superintendents, comes to the following conclusions: First. That the question of motive should be the last thing considered in the diagnosis of insanity in a criminal. Second. That the insane may commit crimes from "sane" motives. Third. That the insane may commit crimes arising from a logical process of reasoning based on delusive conceptions. Fourth. That the insane may commit crimes from insane motives yet allege for the same sane motives. Fifth. That even an imperative conception which urges a patient to immediate action may be interfered with by a healthy conception and produce a seeming vacillation in the patient's purpose.

The Coma of Bright's Disease.—Dr. T. A. McBride (*American Journal of Neurology and Psychiatry*, February, 1883) calls attention to the necessity of demarcating nephritic coma from other comatose conditions. The signs of pururæmic coma are: In most cases a high temperature is wanting however ; in renal disease secondary to diseases of urinary tract ; in the aged ; in the course of chronic renal disease where there has been vomiting, diarrhœa, and hæmorrhage ; in the cancerous cachexia and miasmatic conditions. Suppression of urine or scanty and bloody urine, accentuation of second aortic sound of the heart, and a pulse of high tension. These signs are only appreciable early in the attack. Œdema of the lungs; marked subconjunctival œdema coexistent with other signs; hydrothorax and general anasarca. Except in cases where uræmia and other conditions producing coma coexist, these signs suffice for a differential diagnosis.

DIET IN ALBUMINURIA.—Dr. Senator (*Berliner Klinische Wochenschrift*, December 4, 1882) believes that it is better to take small quantities of food at short intervals than large quantities at longer intervals. Dr. T. A. McBride (*American Journal of Neurology and Psychiatry*, February, 1883) states that he has for several years recognized the effect such a mode of living has in producing and increasing the deposits of uric acid, urates and oxalates in the urine.

HERPES ZOSTER AS AN INFECTIOUS DISEASE.—Dr. Erb (*Neurologisches Centralblatt*, December, 1882) claims that beside the cases due to spinal and vertebral lesions, phthisis, pleuritis, etc., there are many cases in which "shingles" is due to a certain specific cause probably of an infectious nature.

HERNIARIA GLABRA, according to the Cincinnati *Lancet and Clinic*, April 21, 1883, has been found very useful in vesical affections. Zeissl of Vienna recommends its use in acute cystitis. It has, according to him, an action similar to belladonna, but without the latter's drawback. It is also of value in chronic cystitis and urethral trouble dependent upon womb and vaginal irritation. In gonorrhœa it limits the extension of the inflammation, and thus tends to prevent epididymitis, vertigo, and delirium of temporary duration.

PARENCHYMATOUS ARSENICAL INJECTIONS IN GÔITRE.—Grummach (*Berliner Klinische Wochenschrift*) has treated one hundred cases of gôitre by parenchymatous injections of the following solution: Fowler's solution, one part; distilled water, three parts. Half a Pravoz syringeful of this solution is injected two or three times a week. After ten to twelve injections, diminution in the size of the gôitre and in the subjective symptoms becomes decidedly marked.

SELECTIONS.

SUTURE OF THE MUSCULO-SPIRAL NERVE FIVE MONTHS AFTER ITS COMPLETE DIVISION, WITH ULTIMATE RESTORATION OF ITS FUNCTIONS. By T. HOLMES, Surgeon to St. George's Hospital.

Cases of suture of divided nerves are not yet so common as to be of no special interest, and more particularly when they show any point on which our experience is defective. The one which is here related is chiefly remarkable for the long period which elapsed before any decisive symptom of amendment ensued, as well as for the complete restoration of function ultimately obtained.

C. J. S——, an intelligent man, aged thirty, was admitted into St. George's Hospital on Feb. 23d, 1881, on account of paralysis of the right wrist, the result of a wound received five months previously in falling through a skylight, for which he was treated at the Royal Free Hospital. He said that for a week after the accident he had entirely lost sensation in the forearm and hand, but this partly returned at that period, and had since remained in the same condition. On his admission there was the scar of an extensive irregular wound on the outer side of the back of the elbow. The hand dropped completely when held with the palm downward. He could pronate and supinate the forearm freely, with the elbow flexed, but could not extend the wrist or fingers in the slightest degree, and supination was impossible in the extended position of the forearm. There was decided loss of temperature over the outer aspect of the forearm, and sensibility had diminished in the same situation, as well as over the back of the wrist and hand. He complained of no pain in the arm, but there was a tender spot at the extreme end of the scar, just external to the biceps tendon and about three inches from its insertion. The limb was much wasted, the forearm being at its widest part nearly one inch less in circumference than its fellow. The electrical reaction of the muscles was not tested. On March 10th, 1881, the operation of suturing the nerve was performed. Esmarch's bandage having been applied, the lower end of the nerve was easily found under the scar; the upper one, which seemed to have retracted, was discovered by a little dissection. It terminated in a large bulb, larger than a common pea; the other end was somewhat atrophied. The two ends were rather more than an inch apart. A little was taken off the lower end of the nerve, so as to refresh it, and a portion (but not the whole) of the bulbous upper end was removed. Then, on extending the limb, it was found possible to draw the ends of the nerve together, and a catgut suture was put through the sheath on one side and a suture of fine silk on the other, avoiding the nerve-fibres as far as possible. Examination of the portion removed from the bulbous end showed marked increase of endoneural connective tissue pressing upon and constricting the nerve-fibres, and atrophy of some of the latter; no fatty degeneration. The operation was performed antiseptically, and the wound united by first intention. On March 14th it is noted, "There is a tingling sensation experienced in the arm, localized to no particular area;" and on March 15th, "There certainly seems to be some power of extension returning, for with the wrist held tight to the splint he can make slight movements of extension of the fingers." A few days later it was thought that the sensation at the back of the hand was more perfect. This, however, was dubious. He then left the hospital at his own wish, and nothing more was heard of him till March, 1883, two years after the operation, when he returned to show how completely he had recovered. There is now no perceptible difference between the two arms, though perhaps the affected arm (the right) is somewhat less muscular than it would naturally be. Sensation, however, is perfect, and all the movements of extension of the wrist and fingers are performed as well on one side as the other. He says that it was about a year before the improvement was very obvious to him; but then it began to amend rapidly, and now he uses the limb as well and easily as before the accident.

Remarks.—There have been now many cases published in which the operation of uniting the divided ends of large nerves has been practised both immediately and at considerable intervals after their division. The case which most impressed the minds of surgeons, and which brought this operation prominently before the profession, was Mr. Wheelhouse's,* in

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*** See Mr. Favell's Address on Surgery, Brit. Med. Jour., Aug. 5th, 1876.**

which a man was admitted into hospital on account of paralysis of the lower limb nine months after section of the great sciatic nerve. He was placed under Mr. Wheelhouse's care with a view to amputation, so completely useless was the limb; but regained the use of his leg after the suture of the divided ends of the nerve. This man, as I understand from some notes of his case which Mr. Wheelhouse has kindly sent me, was discharged from the hospital three months after his admission with slight but obvious symptoms of returning motion and sensation, and was able to return to work as an agricultural laborer in four months from that period, or rather more than half a year after the operation. He was again seen nearly two years after his first admission, when there was still some remnant of his injury, the leg being colder, the foot more extended, the limb rather smaller, and one of the toes ulcerated in consequence of its extended position. Ultimately this toe was amputated and an instrument applied to remedy the position of the foot, and when last seen he was, in Mr. Wheelhouse's words, "cured and able to do anything." This brilliant success led to the adoption of the operation in many similar cases with varying success; and also led to the practice of uniting the divided ends of nerves in recent wounds.* The latter class of cases, however, differs in many respects from those of old injury, for it is a matter of constant experience that nerves may regain their function, not only after complete division, but even after resection of considerable portions of their entire trunk. The trunk of the nerve in these cases is reproduced by a process which has been completely studied experimentally. Dr. Brown-Séquard† exhibited to the Société de Biologie at Paris the hind limb of a monkey, "on which in two months and twelve days nearly the whole extent of the sciatic and tibial nerves had been reproduced after an excision of twelve centimetres (4⅝ in.). The motor and sensory functions had not yet returned." It is therefore impossible to say in any case of recovery of function after immediate suture whether the same result would not have followed had no suture been used.

Is the case of old injury and persistent loss of function really different? In other words, in such a case as Mr. Wheelhouse's, where the parts supplied by the divided nerve have been paralyzed for a long period, will they recover if left to themselves? That they do so in some cases I think certain. I perfectly remember the case of a police constable who, in the year 1866, received several stab-wounds, one of which severed the musculo-spiral nerve. He was treated for the direct effects of his injuries in Guy's Hospital by Mr. Birkett, but was under my observation for a considerable period afterward, being employed at the Metropolitan Police Office in some light work. For a long time the hand and wrist dropped, and the extensor tendons were replaced by an apparatus of elastic bands. But slowly and after a long period of total paralysis the functions of the limb returned, and I have ascertained that the restoration of function is now complete. The man was not able to dispense with the apparatus for two years and a half, and it was about two years before any trace of improvement commenced. Now, however, both motion and sensation have so entirely returned that the arm is almost as strong as the other, and the only thing he complains of is that he feels the cold more in that arm. In that case, however, Mr. Birkett, who had charge of the case, and, I believe, reported it in the *Lancet* about that date, believed that the whole trunk of the nerve had not been severed, and such a partial injury would of course be more favorably situated for repair than one in which the severed ends of the nerve are separated by a considerable interval, as in my case. Dr. Brown-Séquard's experiment shows no doubt the theoretical possibility of the regeneration of a large extent of nerve in animals after excision, and some of the cases in which the functions of a nerve have been regained after excision of a portion of its trunk on account of neuralgia prove that the same result may occur in man. Yet we must allow that such a favorable issue is highly dubious, and in a case like that under consideration, in which a long period has elapsed, and where the upper end of the divided nerve is quite separate from the lower, and its nervous filaments are included in a large bulb of fibrous tissue, any restoration of its anatomical continuity appears hopeless.*

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* An interesting paper, On the Immediate Suture of Divided Nerves, by Mr. H. Page, will be found in the Brit. Med. Jour., May 7th, 1881.

† Comptes Rendus de la Soc. de Biol. de Paris, 1882, p. 30. System of Surgery, 3d Edition, vol. ii., p. 214.

I have recently had the opportunity of consulting the Jacksonian Prize Essay by Mr. Bowlby on Injuries of Nerves. As this essay is not yet published (though it is, of course, accessible to the members of the College), I will not take the liberty of quoting from it, but I may say that Mr. Bowlby thinks that after the atrophy and subsequent regeneration of the filaments of the distal end of the nerve, which we know to take place as a consequence of their separation from the proximal end, there ensues in unfavorable cases a secondary atrophy. If the parts of the nerve be reunited before this secondary atrophy has set in, the operation will probably succeed, but not in the opposite case. This view is both ingenious and probable, and lends much force to the doctrine that in any case in which the symptoms of paralysis are persistent after complete division of a nerve its pieces should be sought for and reunited at the earliest possible period. The fact that spontaneous recovery does sometimes occur after a long period of total loss of function, though indubitable—as in the striking instance above related— is not to my mind any argument against this doctrine, for recovery is very uncertain without operation, while after suture it is both more probable and more speedy. At least such seems the result of our present experience.

I am not able to point to any statistical collections of cases which are really of any great value, for the total number of published cases of secondary suture is not large, and an equally large, or probably still larger, number are unpublished. Thus, in the article on Nerve Suture by Tillmanns, in a recent volume of Langenbeck's *Archiv*,† thirteen cases of secondary suture are tabulated. Of these I should class eight as successful, three as dubious, and two as failures. But in two at least of the successful cases the success, though as much as could be hoped for, considering the time after operation, was not yet perfect. On the other hand, the three dubious cases were reported too soon after the operation to be classed as unsuccessful. Tillmanns' collection, however, is evidently imperfect, for he makes no mention of Mr. Wheelhouse's operation, which is the leading case in this country, and, though not the first operation of its kind, was, I believe, original, as far as Mr. Wheelhouse was concerned, and first called the attention of English surgeons to the subject. Mr. Bowlby's paper contains references to twenty cases of secondary suture, with a much larger proportion of failures—in fact, I believe only six are classed as perfectly successful; but then Mr. Bowlby observes, what is a fatal objection to the value of the statistics of this operation hitherto, that in many of the most successful cases, as in mine above related, the success has been so long delayed that accounts which are published only a few weeks after operation are quite worthless. Thus, in a patient of Mr. Pick, on whom an operation very similar to the one above reported was performed on the musculo-spiral nerve, the operation was thought to have failed, and the lad was discharged, apparently with no benefit. Through the kindness of Mr. Coltart, of Epsom, we have lately ascertained that he has now, like my patient, entirely recovered. Mr. Pick may possibly record the case.

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* Dr. Weir Mitchell says: "The future of cases of entire severance of nerves will depend on the amount of nerve cut away, the sequent neuritis, and the fate of the surrounding tissues; but even when the portion lost has been an inch or more, we should not absolutely despair of a large return of function, when we remember the extraordinary regeneration of nerves after exsections for neuralgia."—Injuries of Nerves, p. 226. This observation, however, and those which follow it as to the results of treatment, refer to a period very soon after the accident, not to the prognosis and treatment of old injuries. And Dr. Mitchell's remarks on nerve suture also apply only to the immediate treatment of wounds. Mr. Page says, and I have no doubt with truth (after a proper distinction between clean cuts and lacerated wounds), that "the usual history of divided nerves in lacerated wounds has been one which has not told us of repair and of restored function, but rather of abolished function, neuralgiæ, and the many disturbances of nutrition to which such nerve lesions give rise.

† Ueber Nervenverletzungen und Nervennacht, Archiv f. Klin. Chir., 1882, vol. xxvii. p. 1.

With regard to the time after the injury at which the operation should be undertaken, we are not yet in a position to lay down any certain rules. Obviously if the parts are quite quiet and the wound completely healed, there can be no motive for deferring the operation, and both the theoretical considerations insisted on by Mr. Bowlby and the practical experience of cases warn us against too long delay. Yet a case is on record in which Mr. Jessop* operated on the ulnar nerve with at any rate partial success nine years after its division. I lately united the median and ulnar nerves eight days after the accident, and was led to suspect that it would have been better to have waited till all inflammation in the wound had passed over, or even till the wound had entirely united ; but the case is not yet complete, and further experience is wanted on this head. One thing I think we are justified in saying—viz., that there has been no instance hitherto recorded of any harm from the operation—no tetanus or acute neuritis—and this consideration adds force to the rule now, I believe, generally adopted to unite by suture the ends of all nerves which are seen divided in recent wounds.

A question is often raised in this operation as to the method of passing the sutures, whether through the tissue of the nerve itself or through the sheath only. I think all that we need say on this head is that the sutures should have a firm hold ; whether they be passed through the thickness of the nerve or not seems of little consequence. In only one of the thirteen cases above referred to as quoted by Tillmanns was the precaution taken of including only the sheath in the suture. The material of the suture is probably a matter of some importance. Catgut is unirritating, but is not sure to hold beyond a few days, so that it seems a good plan to reinforce the catgut suture with one or two of fine silk (as in my case) or horsehair. It does not seem necessary to remove more than a very small portion of either end of the nerve. In the above instance I purposely took away very little, in order to obviate tension as much as possible. Had the separation between the cut ends been less, I should have liked to exercise the whole of the bulb on the upper and all the wasted part of the lower end ; but I thought it better under the circumstances to remove very little, and the result justified the course adopted.—*Lancet.*

OVARIOTOMY TWICE SUCCESSFULLY PERFORMED UPON THE SAME PATIENT. CYST RUPTURED BOTH TIMES. By CHARLES H. CARTER, B.A., M.D., B.S.Lond., Physician to the Hospital for Women.

The narration of the following case is of interest not alone because the operation was twice successfully performed upon the same patient, but also because the cyst or cysts had on each occasion ruptured, and the abdominal cavity was filled with the contents, thereby adding both to the difficulty of the diagnosis and to the gravity of the operation. The cases recorded in which ovariotomy has twice been performed upon the same patient are not numerous. Sir T. Spencer Wells, in his work on "Ovarian and Uterine Tumors" (1882), mentions thirteen as having come under his notice, and in eleven of these he had twice performed ovariotomy; in the other two he had operated the second time. In these thirteen cases the interval that elapsed between the two operations varied from one to eight years. In the case now recorded the interval was three years and a half.

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* Tillmanns, op. cit., Case 11, Brit. Med. Jour., Dec. 2d, 1871.

The first operation was performed on June 19th, 1879. The patient was thirty-two years old, had been married ten years, and had had five children and one miscarriage. She applied at the out-patient department of the hospital for a swelling of the abdomen, which had come on after her last confinement six months ago and was increasing. She was seen by my colleague, Dr. Holland, who diagnosed an ovarian cyst. She became an in-patient under my care. On admission the abdomen was large, distended, but not at all prominent; the recti muscles were widely separated, and on straining (as on raising herself in the bed) the abdominal contents bulged forward between the separated muscles; the front of the abdomen was dull to about three inches above the umbilicus; both flanks were resonant far back; the resonance was not constant, but varied somewhat as the patient changed her position and at different times of examination, though never absolutely dull; no distinct outline of a tumor could be made out; the abdomen was soft, and the hand could be pressed down to the spine. By vaginal examination the uterus was completely prolapsed, the posterior vaginal wall being pushed outward and dragging down the uterus. Nothing solid could be felt in the pelvis by vaginal or rectal examination, nor any distinct tumor bimanually. The patient had a strumous aspect; her general health was bad, with facies ovariana; beyond this there was little constitutional disturbance. The temperature was slightly raised at night; pulse quiet. The cyst probably ruptured in the interval before she was admitted as an in-patient. She was kept under observation for a time, during which she slowly increased in size.

At the operation, after cutting through the parietes and reaching the peritoneum, the peritoneal sac bulged forward through the opening, and on cutting through it a thick darkish fluid, very tenacious, poured out. On passing in the hand, the whole abdominal cavity was full of the same tenacious colloid material, portions of which varied in color from light yellow to dark brown; in the pelvis a hardish mass was felt, consisting of a number of small cysts, and the contracted walls of a larger one which had ruptured. This mass was pulled out of the abdominal cavity, and was attached by a broad pedicle to the left side of the uterus; the pedicle was transfixed and tied in halves, and as a whole, and the cysts removed; a piece of omentum, which was adherent, was tied with silk and separated. The hand then scooped out as much as was possible of the colloid material which lay among the intestines and coated the viscera; altogether twenty-one pints of this material were removed. After careful sponging, which could not get away the sticky substance which adhered to the viscera, a drainage-tube was put in, and the wound closed with fourteen silkworm gut sutures. The mass of cysts removed weighed three pounds and a half, consisted of one large proliferous cyst ruptured, and on its walls a number of smaller cysts, many of which were ruptured, and their thick gelatinous contents beginning to exude. The parietal peritoneum was generally thickened and red, that covering the intestines fairly natural. The right ovary natural. The operation was performed under antiseptic precautions and the carbolic spray. The patient did well. The drainage-tube was removed on the ninth day. The patient left the hospital on July 31st quite well. In November, 1880, she came to me complaining of a hardness in the old cicatrix: this eventually broke down, and an abscess formed and broke, leaving a sinus, which ran between the abdominal muscles, and was a long time in closing. She again came to me in May, 1882, and complained of pain and swelling of the abdomen and flatulence. She was regular, and had been so since three months after the operation; the uterus was lower than usual, and a ring pessary was placed: nothing wrong was detected in the abdomen. After this she went into the country, and remained there some time, and again came to me in October, saying that lately the abdomen had begun to enlarge, and that she had seen a doctor who sent her back to see me. The abdomen was large and distended, dull in the flanks and in front to within two inches of the ribs. By vaginal examination the uterus was not markedly enlarged, external, and not kept up by the ring pessary; the posterior vaginal wall was much distended and pushed outside. The skin where the incision had been made was very thin and bulging, evidently from fluid. She was admitted into the hospital on November 4th, and she measured 36½ in. at the umbilicus, dulness extending in mid-line 2½ in. above the umbilicus, the flank resonant, the left less so than the right; no very defined area of dulness, nor any marked evidence of fluid in a cyst; the resonance in the flanks varying; fluctuation could be made out, though obscurely. On November 18th the umbilical measurement was 39¼ in. The diagnosis, at first somewhat obscure, was made easier through former experience, and I concluded that the ovary in the right side had become cystic and ruptured; there was but little constitutional disturbance beyond that arising from the increasing size and weight of the abdominal contents, and her chief complaint was the extrusion of the uterus and posterior vaginal wall, which did not go back on lying down, nor could be kept back by any pessary.

The second operation was performed on November 30th, the patient having ceased to menstruate on the 27th. The incision was made half an inch to the right of the old cicatrix; the abdominal walls were exceedingly thin, consisting merely of skin. On reaching the peritoneum it bulged forward, and on opening it thick colloid material poured out, and the diagnosis was clear that the cyst had ruptured. The incision was enlarged, and the contents of the cavity pressed out, and then the hand passed in and scooped out the jelly-like substance. In the pelvis a number of ruptured cysts were felt and pulled forward and separated from a larger mass below, and then the larger mass was pulled out and found attached to the right side of the uterus by a thin broad pedicle. This was transfixed and tied in halves and as a whole, and the cysts removed. The abdominal cavity was then cleared of the colloid material, the hand scooping it out and exploring under the liver, stomach, flanks, etc. After sponging and getting away all that was possible, a drainage-tube was placed and the wound closed by ten silkworm gut sutures. The intestines were fairly natural in color, and the parietal peritoneum reddened. The colloid material removed weighed twenty-five pounds, and measured twenty-three pints; it varied in color from canary-yellow to dark olive-green, and presented a strange appearance, nearly filling a large foot-bath, from the mixture of the different colored masses of jelly-like material, and showing that a large number of cysts had been ruptured. The cyst walls weighed two pounds and three quarters, and consisted of a great many thin-walled cysts varying in size. The stump of the pedicle at the first operation was felt as a hard nodule about the size of a pea at the upper border of the left broad ligament. The operation was conducted under antiseptic precautions and the carbolic spray. The patient did well; the drainage-tube was removed on the sixth day. A discharge of ascitic fluid continued from the opening left by the tube for some weeks; at first this was rather abundant, and then became purulent, and a sinus remained, down which a probe passed three inches; this very slowly closed. She was discharged on Jan. 30th, 1883, the opening still present for about and inch and a half. She was seen about a month after this, when the wound was found perfectly healed and the patient in good health.

I have met with a third example of ruptured cyst where a large quantity of colloid material filled the pelvis. A patient, sixty years old, single, was sent to me in October, 1881, by Mr. Sharpin of Bedford. She had noticed a swelling in the lower part of the abdomen about twelve months previously; it remained much the same size for six months, when it began slowly to enlarge. At this time she had a falling of the womb, which came on quite suddenly without apparent cause, the uterus, and especially the posterior vaginal wall, being pushed out. When I saw her the abdomen was distended by a tumor which reached to within three inches of the ensiform cartilage; both flanks were resonant, though on the left side the dulness extended far back. By vaginal examination the uterus was completely prolapsed with a large bulging rectocele; when replaced it at once returned. After being under observation a few days she complained of great pain in the prolapsed part, which was more distended; she had great difficulty in passing water, the abdomen became fuller and tender, and the temperature rose gradually in three days to 102.6°, and the pulse to 116; after three or four days it fell to normal. On Nov. 7th, when the febrile attack had passed, I operated. On opening the peritoneum a quantity of straw-colored colloid material escaped. The cyst was thin-walled, and the contents were too thick and tenacious to flow through the trocar; it was therefore removed, the cyst pulled forward, and the contents taken out by hand. There were no adhesions, and the cyst was attached to the left side of the uterus by a broad pedicle, which was ligatured and cut short. The pelvis was full of the colloid material, and after emptying it the prolapsed uterus, etc., were pushed back. A large quantity of the colloid material was taken from the abdominal cavity, and after careful sponging the wound was closed by silkworm gut sutures. The peritoneum, parietal and visceral, was very red and inflamed, in some places granular-looking. The cyst and its contents weighed 19 lbs. The operation was performed under antiseptic precautions, and the carbolic spray was used. The patient did very well. The temperature was once 100.2°, on the evening of the first day, and the pulse 104. In this case it may be assumed that the sudden coming on of the prolapsus marked the time when a cyst ruptured, and that the pressure of the contents filling the pelvis led to the marked protrusion of the posterior vaginal wall. There was most probably a second rupture of some cyst at the time when she had the febrile attack, just before the operation, and when a large quantity of fluid was poured into the general cavity of the abdomen. In the three instances recorded this protrusion of the vaginal wall was a very marked symptom.—*Lancet.*

FATAL ARREST OF THE DIGESTIVE PROCESS FROM CHLOROFORM FOLLOWING A DIFFICULT LABOR. By ALEXANDER HUTCHINS, A.M., M.D.

Mrs. B., age 24, primipara; health excellent throughout pregnancy;

all physical functions normal; appetite and digestion good; able to attend to all needful household duty and to take all desired exercise out of doors; moral condition cheerful throughout; social surroundings easy; complexion brunette; stature average; habit full; physique normal; no albumen in urine throughout pregnancy.

At 2 A.M., May 9th, 1883, was awakened from sleep by a profuse drenching discharge of liquor amnii without pain. The discharge ceasing, and no occurrence of pain, went to sleep again, and the writer was not notified till 9 A.M. Patient had breakfasted, and was dressed. No dilation of os and no discharge; soft parts normal. The patient being at expected term, was seen occasionally, but with the exception of slight pains, without dilatation, at intervals varying from one to three hours, no change occurred in her condition till the afternoon of the 11th.

At 2 P.M. of the 11th, just sixty hours from the discharge of waters, uterine action became regular, with the first signs of dilatation. The pains recurred at intervals of about fifteen minutes from this time till 6 P.M., then became quite severe at intervals of about five minutes, with so slow dilatation, that at 10 P.M. the os was not larger than a silver dollar. There was no further discharge of liquor amnii, the soft parts retained their natural secretion and temperature, but did not soften as in ordinary labor. The patient was cheerful and bright in the intervals of pain. The os being dilatable, and the labor so long continued and promising so great tediousness, when the attendant was considering the propriety of interfering to facilitate delivery, at about 10.15 P.M. at the onset of a pain apparently no more severe than its predecessors, a convulsion occurred.

Dr. J. B. Leary responded promptly to the call for assistance, but, pending his arrival, the forceps were applied and without difficulty. The full effect of chloroform being secured, traction was begun without apparent result. Dr. Leary and the writer relieved each other in the effort at delivery for about an hour, the anæsthesia being steadily sustained, as any traction made during any stage of consciousness produced the most violent resistance. Dr. J. J. Lamadrid was then summoned, and the three took turns in traction and administering the chloroform. After about two and a half hours of this effort the Bedford forceps failed to secure the head, which, in its slow progress through the unyielding canal, became cylindrical in shape, though it had been forced down to the symphisis, a portion being locked on the pubes and refusing to be brought down to the perineum. Matters were at a stand-still, and it seemed as if craniotomy were inevitable. The Hodge forceps were then applied with the traction directly at right angles to the axis of the body. After about twenty minutes this manœuvre proved successful, and the head was born. Dr. J. H. Hunt arriving at this juncture, after a prolonged and tedious effort, succeeded in liberating the arms, and after some further and unusual effort the body of a nine-pound child, dead. The chloroform was withdrawn, the placenta extracted from the uterus, which contracted promptly, a hypodermic injection of ergot administered, and in the course of one hour the patient was left apparently thoroughly comfortable. The laceration was inconsiderable and to one side, the sphincter ani not being included.

At 9 A.M. of the 12th the patient was cheerful and free from serious discomfort, had slept for five hours, passed water voluntarily, and had had an action of the bowels. The lochial discharge was natural and very slight swelling of the vulva, with no unusual soreness.

By noon of that day a nausea, which had caused some uneasiness during the forenoon, became quite distressing, efforts at vomiting were frequent, and eructations of gas abundant. Later in the afternoon colonic distention was evident and the tympanites caused grievous distress. Volumes of gas were discharged per anum, explosively and with great frequency, oftentimes accompanied by natural fæces. Food of whatever kind taken into the stomach was followed by this enormous secretion of gas, and when the food was withheld there was no appreciable difference in the amount of distention. Innumerable devices, both of food and medicine, were resorted to as a relief to this indigestion, but without avail. The suffering from this distention was very great and constituted the only distress she endured. Her intellect was clear, her apologies, over the explosions of gas and the accompanying discharges of fæces, were unfailing. She had control of her urine, and passed it in sufficient quantities, it being usually light in color. At no time was there any approach to delirium. Her self-control was surprising. She made little complaint, save as the pain from movements of the gas in the bowels, or some change in her position caused an involuntary shriek. The frequent and voluminous explosions of gas per anum caused on the second day paralysis of the sphincter ani. She made strong efforts to obtain sleep, but the frequent paroxysms of pain above described prevented sleep, except when it was forced by the partial narcosis of an opiate

The aid of Dr. J. H. H. Burge was invoked during this period, but all means proved futile to modify or arrest the trouble.

This condition of affairs, beginning in the forenoon of the 11th, a few hours after delivery, continued, without material change of history, till about 10 A.M. of the 17th, when after the morning toilet had been made with considerable personal assistance which she was able to render, after having had some food, with a manifest clearness of vision and intellect and with no apparent change in her condition from what it had been for six days, suddenly, with one of the sharp twists of paina convulsion ensued, and in a short time she was dead.

This very distressing experience presented some extraordinary features, ante and post-partum.

The labor was markedly a "dry labor." The waters were discharged sixty hours before dilatation began, and no leakage occurred in the mean time. The child was strongly compressed by the uterus during this period. The dilatation was slow and painful and the ordinary relaxation of the soft parts did not occur. The passage of the child from the uterus to the external world was through an unyielding canal, or unyielding to the extent that all progress was made by forcing a slowly compressible large body through a slowly dilating small canal, and this through its whole extent, the head of the child becoming more and more cylindrical till its delivery was completed. The distortion of the head prevented its passage into the hollow of the sacrum and caused it to impinge against the pubes, requiring, for the final manœuvre in its delivery, an unusual mode of traction with the exercise of great force. The extreme pressure of the advancing child provoked the most violent reflex resistance, which only profound anæsthesia could overcome. The first convulsion was the result of pressure, and delivery without chloroform would have been impossible. The anæsthesia was continued for three hours and was well borne. The recovery from the prolonged anæsthesia was rapid, with immediate and full consciousness. Though the writer is compelled to include himself in the laudation, that due credit may be given to the gentlemen who so promptly, laboriously, and skilfully aided him, it is a tribute to the skill and wisdom of the physicians in charge that such tremendous and long-continued efforts at traction, in such difficult straits, were conducted to a successful issue with so little laceration, that, under ordinary circumstances, it would have been of no concern. The immediate post-partum conditions were such as belong to the most ordinary labor. The urine and fæces passed naturally, the uterus normally contracted, and the lochia was of typical quantity and free from any septic condition. Neither the temperature nor surface indicated any febrile action, the eyes remained clear, and the tongue gave very little evidence of gastric disorder. No milk was secreted. The intelligence was unclouded, and the moral sense in repose. In fine, the whole parturient epoch, saving the early discharge of the waters and the extraordinary difficulty in the actual passage of the child, included no elements different from the experience of an ordinary labor.

The sudden arrest of the digestive process, that followed so speedily after the delivery, has been portrayed above, and this, with its consequent complications, led to the fatal issue. It is the opinion of all who were familiar with the case, that the digestive disturbance was directly due to the secondary effects of the chloroform. Delivery without the chloroform would have been impossible. The patient would have died from shock, had the attempt been persevered in, long before delivery could have been effected. In fact, the complications were so grave that not one of the physicians or attendants expected that she could survive the birth of the child.

Her earliest complaint, the morning after the labor, was distress at the præcordia, as if there were a load that would not be removed—a dyspeptic gastralgia. She spoke often of the continuing odor and taste of the chloroform. Her attendants perceived it constantly for a couple of days. She was saturated with the anæsthetic. The long period during which she was under its influence aggravated to what proved a fatal degree the digestive disturbance, which, in varying shades, affect all who come out from a profound anæsthesia. The writer has frequently noticed the disgust for chloroform that is excited in those who have used it for recurring neuralgic conditions. Many prefer to endure the pain rather than the after-effects of the anæsthetic. In this case the arrest of digestion was so complete that none of the multiform devices resorted to availed to restore the natural process. As reported above, a normal discharge of fæces occurred within a few hours after delivery. The subsequent movements were less thoroughly fæcal, and after the bowels had discharged their contents at the time of delivery, no further fæcal discharges appeared, showing that the digestive process never reasserted itself. The enormous distention, which was rarely modified even by the voluminous expulsion of gas, was a bar to all normal digestion. All remedial measures, as well as all efforts at nourishment, were foiled by the incapacity of the organs of digestion to appropriate them. The convulsion that closed this protracted suffering was a counterpart of the convulsion that ushered in the full dilatation. In both cases they were reflex—in the latter from the pain of pressure, in the former from the pain of distention.

So far as is known, this case is unique as illustrative of the possible profound effects of prolonged chloroformization on the digestive function. This patient, who had been in perfect health, with a sound digestion all through her pregnancy, and had gratified her appetite with hearty food, had taken her usual food during the sixty hours that intervened between the discharge of the liquor amnii and the onset of labor, and had taken some light food during the ten hours that preceded the convulsion, so that the usual rule of taking chloroform on an empty stomach was not, and could not have been, adhered to in her case. It is not unlikely that the digestive process had been held in abeyance during the period of dilatation, and that vomiting of the contents of the stomach did not occur by reason of the prolonged full anæsthesia, and thus the conditions, most fertile for the development of the indigestion, existed.

If this be true, serious and distressing as this history proved, it has little lesson for the future save as it amplifies and enforces the rule of dieting in advance of the anæsthetic. The vomiting that might have occurred in an interval of partial consciousness did not take place, and a greater or less quantity of undigested food lay, as an irritant, in the paralyzed digestive track. This line of reasoning, recognized and acted upon at the outset, led to the administration of a mild aperient within the first few hours, and as the discharges during the second day showed the absence of any obstruction, the indigestion was maintained to the end by the muscular paralysis consequent on the continued distention.—*Trans. Kings Co. Med. Soc.*

The Influence of Calomel on Digestion.—Dr. Vassilieff has found, from experiment, that the presence of calomel, at least up to the amount of five grammes, in the alimentary canal, does not interfere with the gastric juice, nor affect the triple influence of the pancreatic fluid on albumen, fat, and starch; on mixing the latter fluid with fibrin and calomel, the formation of certain products, indol, etc., always appearing as a result of prolonged digestion under normal circumstances, is prevented. The gases generated in the process of pancreatic digestion contain none of the usual products of fermentation and decomposition when calomel is present; sulphuretted hydrogen and pure hydrogen are absent, carbonic acid is diminished to from two to ten per cent; while, under natural circumstances, from fourteen to fifty-four per cent is found in the gases evolved by the action of the pancreatic fluid. In fact, calomel prevents all other changes in nutritious substances, save those produced entirely by the digestive secretions, decomposition and retrogressive processes in albumens being entirely checked. Calomel also prevents butyric acid fermentation, as Vassilieff found by experiments on cheese. The action of calomel readily explains the cause of the green color of fæces passed by patients to whom that drug has been administered. Hoppe-Seyler rightly attributed this coloration to the presence of unaltered bile. Now, under normal conditions, bilirubin and biliverdin are changed, by a process of decomposition, into hydrobilirubin, and thus becomes no longer recognizable in the excretion; but this process is arrested by calomel, and the coloring agents, unaltered, give the fæces their peculiar bright green hue.

These researches are described at length by Dr. Vassilieff in the *Zeitschrift für Physiologische Chemie*, vol. vi., page 112. He has found that this action of calomel is due to its power over the micro-organisms intimately associated with the process of decomposition which takes place in food during digestion. The drug prevents the development of micro-organisms in the digestive fluids, and also destroys any bacteria and micrococci already developed. This fact was proved first by artificial digestion. Vassilieff then made a series of experiments to find whether calomel had the same influence in natural digestion. Thirty grains of calomel were administered to a dog, in two doses, and the animal was killed a few hours later. Under all precautions, the contents of the intestines were then carefully analyzed. Neither indol nor phenol could be found; and it will not be forgotten by those who study contemporaneous physiological research, that other agents—such as salicylic acid—prevent the formation of indol; and that pancreatic mixtures, formed from natural pancreatic juice, or infusions of pancreatic glandular tissue, undergo septic changes with very great rapidity, in spite of all precautions. None of these changes, nor any formation of indol, occurred in the food taken by dogs to which Vassilieff administered calomel. On the other hand, leucin and tyrosin were found in abundance. Under natural circumstances, these products of pancreatic digestion are so rapidly decomposed, that they cannot be detected in semi-digested food. Hence calomel has no influence on the action of digestive fluids, but entirely prevents those true retrogressive and putrefactive changes whereby the highly unstable products of these fluids are rapidly decomposed and micro-organisms quickly developed in great numbers. When calomel enters the alimentary canal, leucin, tyrosin, bilirubin, and other substances, remain unchanged, and bacteria are checked and killed.—*Lancet.*

Diagnosis of the Different Forms of Urethral Discharge.—Dr. Fürbinger thus distinguishes the different discharges taking place from the male urethra (*Centralb. für klin. Medicin,* April 21, 1883). Spermatorrhœa is a loss of seminal fluid which occurs during defecation or at the completion of micturition. The condition, which is much more common than is ordinarily supposed, is not a final stage of pollutions, but is caused most frequently by gonorrhœa and sexual abuses. Spermatorrhœa becomes azoöspermatorrhœa when for any cause (usually from epididymitis) the testicles cease to produce spermatozoa. Prostatorrhœa is the discharge, sometimes continuous, sometimes only during defecation and urination, of the prostatic secretion. It is a rare condition, and is a symptom of chronic prostatitis, usually of gonorrhœal origin. Urethrorrhœa ex libidine is a phenomenon occurring usually in anæmic and nervous individuals. It consists of a scanty discharge, without orgasm or ejaculation, accompanied by intense sexual excitement and strong eretion. The last discharge to be considered is gleet.

Of these five processes, two are easily recognized. Spermatorrhœa is evidenced by the presence in large numbers of spermatozoa (a few here and there signify nothing), and urethrorrhœa is readily recognized by its characteristic mode of onset. The secretion of the latter is the product of the urethral glands. It is clear, stringy, and contains but few epithelial and round cells. A very abundant discharge points to azoöspermatorrhœa. The absence of pus-corpuscles also points to the same condition, though their presence has no weight on the other side, as urethritis may exist at the same time. In such cases the presence of the specific secretion of the seminal vesicles must be determined. If one finds a jelly-like substance resembling in shape grains of sago, that is conclusive; but if this is not found, it may be that it is in solution, and may then be precipitated by a strong alkali. The secretions is allowed to stand for a time, and then a clear drop is placed in a wine-glass, and a drop of caustic potash added. If now the drop shows a thick white cloud, or streaks, it is evidence that the secretion contains seminal fluid. If this process shows that we have not to do with azoöspermatorrhœa, there still remains the differential diagnonsis between prostatorrhœa and gleet to be determined. In the latter the discharge is very scanty; in the former, digital examinations reveal great tenderness on pressure of the prostate gland. Indications of prostatorrhœa are: 1, the presence, unfortunately not constant, of numerous amyloid bodies; 2, numerous typical cylinder cells, especially when in the double layer arrangement of glandular epithelium; 3, the large Böttcher's crystals. The presence of the latter is ascertained by mixing a drop of the secretion with a drop of a 1 per cent solution of phosphorated ammonia upon an object glass. In about an hour numerous large, exceedingly beautiful crystals are formed. The secretion of the prostate, the author insists, is not clear, odorless, and thick, as usually stated, but is thin, of a milky cloudiness, and possesses the characteristic odor of spermatic fluid.

An aid to diagnosis is also found in the time of the appearance of the secretion in the urine. The first and last portions are to be separated from the principal flow of the urine. The presence of the secretion in the first portion points to gleet ; in the first and second portions to prostatorrhœa ; in the third portion to azoöspermatorrhœa. The latter appears in the form of nearly transparent, thick, stringy masses, and sometimes also in the shape of sago grains.—*Medical Record.*

SEA-BATHING.—However suitable as a valuable tonic restorative bathing in the open sea may be in the case of any particular person, the good effects of a sea-bath may be missed if the bather do not give heed to certain well-ascertained rules which ought to guide his proceedings. The good effects of a plunge in the sea are in proportion to the vigor of the reaction which is excited in the bather's body by the shock of immersion. The more marked and prolonged the reaction the better. It should be the bather's object, to quote the words of an eminent physician, to secure the greatest possible amount of stimulation and to insure as long as possible the persistence of the increased vigor of nutrition. The time of bathing is important. It is a common error to suppose it is best to bathe before breakfast. The very robust may possibly bathe then with impunity, but, even for them, the practice of plunging into the sea in the morning, fasting, is not free from risk ; while for the weakly, such a course is possibly prejudicial. After the long fast of the sleeping hours, the vital functions fall to a relatively low ebb, and they are liable to undue depression from such a severe shock as a cold sea-bath. Neither ought bathing to be practised immediately after taking a meal ; it is then likely to cause troublesome symptoms by suddenly arresting the digestive processes. Probably the best results are obtainable from sea-bathing at a time midway between breakfast and luncheon—that is, from two to three hours after the early morning meal, when the body has been nourished after the fasting of the night, and when the stomach has had time in great part to dispose of its contents. A bather should never enter the sea while under the influence of emotional excitement ; if the nervous force be unduly concentrated in any single direction, a sea-bather is likely to produce nervous depression rather than stimulation. A bather should not stand hesitatingly by the water's edge until he becomes cold and shivering, but plunge into the sea at once. It is another popular error to suppose that the skin should be cooled before entering the sea ; if the bather be chilled just before his bath, circulatory depression rather than reaction is apt to arise, leaving him with a sense of coldness and weakness rather than of warmth and invigoration. To get its best results, a sea-bath must not be too prolonged. It has been laid down as a rule by a well-known authority that no one bathing for health only should remain in the open sea for more than ten minutes. Even a shorter immersion than this will probably best suit all but the strongest persons. The bather must not stay in the sea until the reactive stimulation of his bath has passed away. His object ought to be to excite an energetic reaction, and then to leave the water. From too long immersion in the open sea, the skin becomes unduly cooled, and the circulation and nervous system depressed, so that exhaustion, *malaise*, and shivering are apt to arise, instead of a feeling of renewed vigor, well-being, and warmth.—*British Medical Journal.*

SELECTED ABSTRACTS.

TUBAL PREGNANCY—RUPTURE OF THE BLADDER (*Arch. f. Gynäk.*, xix., 2, 1882).—Patient æt. thirty-two, in fourth month of pregnancy, has had lately great difficulty in passing urine, which was dark-looking and very offensive. A few hours after the doctor's first visit, the woman, waking up out of a heavy dream, jumped out of bed, when she at once felt a sharp, cutting pain in her abdomen. The whole belly was soon greatly distended and painful to the touch. Symptoms of collapse. It having been ascertained, by introducing the sound, that the uterus was empty, a soft tumor presenting in Douglas' pouch suggested diagnosis of extrauterine pregnancy with rupture of the sac. A few drops of very foul, offensive urine were drawn from the bladder, and a fine trocar was inserted into the abdominal tumor from the vagina; one quart of clear, yellowish serum escaped, which relieved the patient considerably. On the next day, however, she died of collapse. The post-mortem revealed immense distention of the bladder. On its posterior wall was an ulcer of the size of a dollar, which had perforated, emptying its contents into the abdominal cavity. The pelvis proper was filled out by a tumor of the size of a head. It contained a well-preserved four-months-old fetus and was the left tube transformed into a fetal sac.—*Am. Journal Obstetrics.*

ON THE TREATMENT OF PUERPERAL ECLAMPSIA (*Arch. f. Gynäk.*, xix., 2, 1882).—B. reports the good results he obtained with the hot bath in several cases of puerperal eclampsia. The puerpera was put in a full bath of 38°–40° C. By adding hot water the temperature was raised to 42°–45° C. The face alone was kept above surface of the water. As soon as profuse respiration broke out the patient was brought back to bed and wrapped up in several warm blankets, the face remaining uncovered so as to allow of free respiration. After two to three hours the blankets were removed and the patient made comfortable. Some patients were entirely comatose when put into the bath. In no case did the coma increase. The swelling of the limbs began to decrease after the first bath; it was entirely gone after the third or fourth.

It is a remarkable fact that the hot bath did not bring on labor in two cases of pregnancy, the one in the sixth, the other in the ninth month. Both were cured of the edema, the one was delivered at full term, the other had a miscarriage five weeks later. Dropsical gravidæ have repeatedly been treated with hot baths, always successfully, premature labor never occurring.

Special care was taken to prevent hemorrhage. The membranes and the placenta were carefully removed, while in the bath the midwife was advised to grasp the womb, gently kneading the fundus in case of relaxation. Her arm was also wrapped up in the blankets. No bad symptoms whatever occurred in the lying-in which could be reasonably attributed to the use of the hot bath.

B. leaves it to the discretion of the physician how often he will resort to the hot bath.

In concluding, B. says: "The diaphoretic treatment alone will, of course, not suffice to remove this most dangerous complication, eclampsia. It will always be necessary to use narcotics besides. Chloral is the sovereign remedy. It should be given in 2.0 doses, in form of an enema, after each attack of spasm, not to exceed 10.0–12.0 in twenty-four hours. B. reports six cases of which only one died (cirrhosis of the liver).—*Ibid.*

ON PUERPERAL ATROPHY OF THE UTERUS (*Ztschr. f. Geb. u. Gyn.*, vii., 2, 1882).—The author observed puerperal atrophy of the uterus twenty-eight times in 3000 gynecological cases: the age of the patients varied between nineteen and forty years, the average being 29.6 years. The majority were ill-nourished and prematurely aged. The most prominent symptom is the non-recurrence of menstruation, months after weaning the child; their other complaints are manifold, often general, and resembling those of hysteria.

No inflammatory changes are present in the generative organs. In harmony with the general atony, the vagina is wide, badly involuted, with tendency to prolapse; in the great majority, the ovaries are small and atrophic; the uterus diminished in all its diameters. The vaginal portion projects little, if at all, into the vagina, approximating the senile state. In some cases, the atrophy affects mainly the thickness of the walls, necessitating the utmost caution in the use of the sound to avoid perforation.

As to etiology, lactation seems to rank first; next to that, rapidly repeated childbirth. In two cases no cause was discoverable.

A case is related which seems to illustrate the causative relation of lactation to the atrophy. The patient was twenty-eight years old; had had five children, the last one eighteen months ago. She nursed the child for three months; menstruation set in again and recurred regularly three times. It then ceased, while the breasts began to secrete copiously. The same condition continued unchanged after the lapse of one year. The uterus was five and a half centimetres in length, rather thin-walled; both ovaries very small and atrophic.

The prognosis is not good for persons living under unfavorable conditions; many lost patience and withdrew from observation. A perfect cure was secured in but a single case, after three months' treatment, the patient being twenty-five years old.

The treatment, aside from improving the general condition, consists of cold friction, warm sitz-baths, sounding the uterus, and vaginal pessaries, which are said to have an irritating effect on the uterus. In the way of prophylaxis, the involution, especially in anæmic women, should be watched; and should the uterus commence to grow abnormally small, nursing must be discontinued.—*Ibid.*

CIRCULAR STENOSIS OF THE VAGINA AS AN OBSTACLE TO LABOR IN A MULTIPARA (*Centralb. f. Gyn.*, No. 16, 1882).—Dr. Wolczynski reports as follows: P. R., thirty years old, admitted February 29th, at 2 A.M. History of a severe forceps delivery six years before, following which she could not retain the urine for six months. This was then remedied by an operation by Bryk. Otherwise she was healthy, except that she sometimes has slight pain on cohabitation.

The waters broke soon after admission. Examination showed a normal head presentation. About six centimetres from the entrance to the vagina the finger came upon a ring with quite sharp edges and admitting one finger, caused by ring- and cord-like growths of connective tissue. Passing through this the head and the already dilating cervix were felt. The rest of the vagina normal. The labor was left to nature till 7 A.M., when the head pressed firmly on the stenosed portion, so that it would have been easy to diagnose this for a rigid cervix. A probe-pointed bistoury was now introduced and the stricture, with much difficulty and some hemorrhage, divided. The head came down to the outlet, and as this was somewhat narrow it had to be delivered from there with forceps. The placenta was adherent and had to be delivered with the hand, which caused some pain in the stenosed part of the vagina. Till March 8th the urine had to be drawn with catheter. On the third day there were small, diphtheritic ulcers in the vagina and an offensive discharge. Carbolized injections and iodoform cured these in a few days, and in two weeks the patient was discharged cured. The stricture was already feeling hard and beginning to close again.

The author advises in another such case to divide the stricture before the head presses on it. To differentiate between such a case and a rigid, depressed cervix, the principal point is that the stricture proceeds from the vagina and cannot be grasped, and one or the other cord-like adhesion may be followed. In case of rigid cervix, the finger may be swept round between this and the vagina.—*Ibid.*

SECONDARY PERINEAL OPERATIONS (*Centralb. f. Gyn.*, No. 20, 1882).—It is generally acknowledged that the only proper treatment for rupture of the perineum is immediate suturing. When, however, union fails after this, or when the sutures for any reason are not put in, the question of operation arises. Most obstetricians advise waiting till involution is complete. Fritsch and Holst advise operation as early as possible, but they have few imitators, and Holst's proposition to clip off the granulations, so as to have fresh surfaces to bring together, is met by the objection that it opens a new entrance port for sepsis. The disadvantages, danger, pain, and discomfort caused by the long waiting before the late operation, and the fact that, after getting about, so many women refuse then to undergo operation, led the author, strengthened in his pupose by his firm belief in the antiseptic properties of iodoform, to attempt secondary sutures. He has done this in two cases, both incomplete ruptures, down to the sphincter. In the first case a scarlatinal eruption had prevented union from the first sutures, and on the tenth day, after the slough had cleared off from the wounds, sutures were again inserted. In the other case, the second sutures were put in on the seventh day, when the first were taken out. In both cases the wound was thoroughly powdered with iodoform, iron-wire sutures were put in and not drawn very tight. No drainage was used. In both cases the patients kept the bed till the stitches were removed. There was no rise of temperature. The deeper parts all united, and in each case there was left a good perineum of about two cm. in breadth.—*Ibid.*

J. MANN (Budapest): DECAPITATION BY ECRASEMENT (*Centralb. f. Gyn.*, No. 21, 1882).—The question which has been agitated for some time in regard to the use of sharp or blunt instruments in decapitation, has been decided in favor of the latter, and Braun's hooks still hold position as the instruments most used. With these, however, great force is often necessary, and much injury may be done. Simpson, Braun, and Stiebel have recommended the use of the écraseur, but the objection to it is the difficulty of passing the chain around the child's neck.

Prof. Kézmárszky (Budapest) has for years used a Meadow's wire-écraseur, modified for the purpose. The long, strong, untempered steel wire (piano-string) is turned into loops at the ends, making it less likely to inflict injury, more easy to handle, and affording an attachment to the hooks on the instrument. The cross-plate of the écraseur is made to allow of the entrance of the wire by an opening in its side, thus giving the whole opening a T-shape. The following case shows the use of the instrument.

Mrs. P. J., Xipara, was admitted two days after the waters had passed off. Her condition was: Face collapsed, quite cyanotic, respiration frequent, pulse abnormal, nausea and vomiting, abdomen distended, tender and painful. Above the symphysis and to the right a tumor as large as a man's head, not reaching to the navel; above this and to be felt immediately under the abdominal wall the smaller portions of a child. On vaginal examination, the left arm external, left shoulder and half-thorax in inlet of pelvis, axilla left, scapula anterior, neck not to be reached. Diagnosis: Transverse presentation, rupture of uterus and entrance of portion of child into abdomen, general peritonitis.

The child's breast was opened by the perforator, and with forceps and hand the contents of thorax and abdomen removed. The left hand then seized the projecting arm and drew it forcibly down, while with the right hand the wire of the écraseur was passed up behind the symphysis, over the child's neck, bent down behind it, then pushed from without till the end came around where it could be seized again by the fingers of the right hand, and so brought out to the hooks on the écraseur. The head was then with great ease and no danger or force separated from the body. The latter was easily removed by the arm, the head by a finger in the mouth. The placenta had to be removed from the abdominal cavity through the cervical laceration which extended into a rupture of the uterus. In spite of all precautions in the way of after-treatment, the woman, as was to be expected, died, but the author, from his experience in the case, feels that he cannot too highly recommend the écraseur, thus modified, as the safest, easiest, and quickest means of decapitation.—*Ibid.*

CLINICAL DEPARTMENT.

CLINICAL LECTURE ON DISEASES OF WOMEN, DELIVERED AT THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK. By Prof. T. GAILLARD THOMAS.

BATTEY'S OPERATION FOR THE RELIEF OF EXCESSIVE DYSMENORRHŒA CAUSED BY FIBROID OF THE UTERUS.

GENTLEMEN: Some of you will have the opportunity to-morrow of seeing me perform Battey's operation at the Woman's Hospital; but as the number of those of you who can be present is necessarily very limited, I will say a few words before commencing our regular clinic in regard to the case, which is one of great interest. It is one of uterine fibroid, which is not now increasing in size, and which does not give rise to hemorrhage, and yet which occasions such frightful suffering that the extreme measure of performing Battey's operation is to be resorted to. For a considerable portion of every month the patient has no trouble, but about five days before the return of the menstrual period she begins to suffer the most dreadful agony, which continues through the flow (which lasts five or six days) and for two or three days afterward. In consequence of this she has to be kept in a semi-narcotized condition with morphia for fully twelve days, and often a longer period, of each month. As a result of this, the lady is becoming a confirmed opium-eater, and in addition has gotten into such an extreme nervous state that nothing can be done for her until the cause of her sufferings is removed. This is what we propose to do, if possible, by putting an end to ovulation, the monthly recurrence of which is apparently accompanied by such intense distress. This, you must understand, is an exceptional and very peculiar case, and it is on this account that I have thought it worth while to take up a few moments of your time to refer to it. The fibroid of the uterus, I may say in passing, is about the size of a man's fist.

RUPTURE OF THE PERINEUM, FOLLOWED BY PROLAPSUS UTERI, CYSTOCELE, AND RECTOCELE.

Our first patient to-day is Mrs. Elizabeth M——, 36 years of age, and a native of the United States. She has been married sixteen years, and has had seven children and four miscarriages. In reply to my inquiries, she says that she has been complaining for the last five years, and that it is her head that has given her the most trouble during that time. In addition, she has had more or less nausea and vomiting, and weakness and trembling about the anus. Her back troubles her a good deal, so that she cannot stand erect without considerable pain in it; and she is growing worse all the time instead of better. Her limbs are in good condition, she says, but she cannot retain her urine. At the same time she is able to pass it voluntarily when she wishes to. Her monthly sickness comes sometimes every three weeks, and sometimes every five weeks. She loses a large quantity of blood, but does not suffer especially at that time. Finally, she is troubled with leucorrhœa.

You will notice that almost all the symptoms of which this patient complains are of a very general character, rather than local. Among them the weakness in the head and back seems to give her the most trouble. Suppose, now, that she had consulted a specialist in diseases of the stomach. He would probably have supposed that the difficulty was primarily in this organ, on account of the gastric irritability present, and would have directed his treatment especially to this. He might, indeed, have afforded her a considerable amount of relief by pursuing such a course as this, but he certainly could not have cured her.

Then, again, she might have gone to a specialist in neurology, who would, no doubt, have noticed particularly the spinal weakness and the difficulty of locomotion, the incontinence of urine, the head symptoms, etc., and would perhaps have made an ophthalmoscopic examination. Then he would have arrived at some diagnosis or other which we need not take time to discuss here, and would have found abundant support for it in the symptoms of the patient. But instead of going to any such specialists, she has come here to a clinic for diseases of women, and we naturally instituted an examination of the pelvic organs, when the apparently obscure case at once became perfectly clear. I think it altogether probable, however, that if this patient had presented herself at a general clinic, a correct diagnosis would not have been made. This would certainly not have reflected on the gentlemen examining her case, because the symptoms do not point at all strongly toward trouble with the pelvic organs. The only ones that point in this direction are the pain and distress in the back and pelvic region, the excessive flow of blood at the menstrual period, and the leucorrhœa.

When a vaginal examination was made, it was found that a clean sweep had been made of the parts within the vulva and the rectum ; there being a complete loss of the perineal body.

I will now show you by a rough diagram on the blackboard the condition of affairs discovered ; and you will notice that, contrary to the representations of the vagina found in the plates of all the standard works, such as Gray's Anatomy, for instance, I draw the anterior and posterior walls directly in apposition with each other. This is just as the vagina actually is in life, the anterior wall resting upon the posterior when the woman is in the erect posture ; and the sooner that you can disabuse your minds of the idea (which one would derive from such plates as I have referred to) that the canal is kept distended by a sort of spiral spring, the better it will be for you.

In one of the labors of this patient the head of the child has torn away the perineum, and all the symptoms of which she to-day complains have resulted from this unfortunate accident. The gap thus made did not heal, but the torn surfaces became covered with mucous membrane, and there was nothing very bad about the appearance of the parts. Still there was mischief going on steadily all the time ; for, whereas there had formerly been a buttress of support in the perineal body, so that as the patient walked about, the posterior wall of the vagina rested securely upon it, now this support was completely done away with. Before the injury, the perineum had been like the "C" spring sometimes run in old-fashioned coaches ; but now the parts, instead of being of a C shape, are like that of the letter S. Consequently, the posterior wall of the vagina, deprived of its natural support, began to fall, and an anterior wall resting upon it and borne down by the weight of the bladder, commenced to descend also. The result was that the uterus, too, by the traction of the two vaginal walls, was dragged down with them. The rupture of the perineum has thus caused all the trouble. Five years ago the accident occurred, and matters have been growing steadily worse ever since. The uterus, sinking lower and lower, is now in the first stage of prolapsus ; but as the patient grows older, it will gradually come to the second stage, and finally the third stage, or complete procidentia, as it is called, will be reached. The whole uterus will then be outside of the body, and when this occurs the woman will really feel better. All the time the organ is in process of descent intense suffering is experienced from the reflex symptoms resulting from the strain on the ligaments and other pathological factors ; but when nature once gives up the long struggle, there follows a time of comparative repose. Although the woman may not suffer so much actual pain, however, the amount of inconvenience, from locomotion, etc., is usually greater than before the third stage of the prolapsus was reached.

At the present time the descending anterior and posterior vaginal walls are carrying the bladder and rectum down with them, and a point has now been reached when the most dependent portions of both of these are entirely outside the vagina. As to the general symptoms, the headache, the gastric derangement, the weakness in the knees, the pain in the back, and the general feeling of discomfort about the pelvis, all result from this prolapsus uteri. The remedy required here is to repair the damage done at the confinement, when the child's head tore through the perineum, and at the same time direct our attention to the removal of the indirect effects of the injury.

Such a patient as this should enter the hospital, as she could be treated with much greater facility in such an institution than in her own home.

Once every day the uterus should be pushed up quite to its normal position, and then retained there by means of a tampon saturated with glycerine, which, by its well-known hydragogue action, would have an excellent effect in relieving the congested state of the parts with which it came in contact. In a short time the operation of perineorraphy would then be performed. Whether the patient would have to wear an abdominal bandage afterward would depend on whether the abdominal walls are protuberant or not. If they are not protuberant, the bandage would be of no service whatever ; but in case they are, the amount of benefit to be derived from such a bandage would correspond with the degree of protuberance. In addition to the local treatment, she should be given suitable tonics, and her general health carefully looked to ; and in six months I should expect to find our patient very greatly improved in every way, and to have gained ten or fifteen pounds in weight.

I presume that scarcely any of you will have been in practice a year without meeting with one or two such cases as the one now before you, prolapsus uteri with inversion of the walls of the vagina. The symptoms, however, will vary very greatly in different instances. Thus, it is not at all uncommon to find in the condition here present that chronic cystitis has resulted. This is because, on account of the sinking down of the bladder, it is impossible for the patient to completely evacuate it, and the ammoniacal degeneration of the residual urine sets up cystitis. In other cases the backache is a more distressing symptom than in the present instance, and if the patient is a lady of wealth she will probably remain confined to bed the greater part of the time.

MULTIPLE UTERINE FIBROIDS.

Our next patient is Mrs. Sarah B——, born in the United States, and 45 years of age. She has been married for twenty-five years, and has never been pregnant. She states that she has been really sick only for the last five or six months, but has been ailing for something like twenty years before that. What she has complained of is pain, and what she calls a "fluttering" in the right side, and these have grown worse during the last few months. She says that her monthly sickness disappeared five months ago, and that ever since then she has been suffering more. In regard to her menses, when she was young, she states that she never flowed too much. As to the sterility, she tells me that so far from doing anything to prevent conception, she was always anxious to have children. There is nothing else that she complains of except the pain and fluttering in the side ; but of late she is not able to walk about much, on account of the distress which the exercise occasions her.

It is altogether probable that this patient's ailment commenced twenty years ago, as she says, or even at a still earlier period. Still, her general condition is not very bad, and the cause of the few symptoms of which she complains became at once apparent when a physical exploration was made. The woman lying on her back, I passed my finger up into the vagina and found the uterus quite high up. By means of conjoined manipulation I ascertained that it was about the size which we could expect to find at the patient's time of life ; but to the left of the uterus there was a large hard mass in the position where she feels the fluttering sensation of which she has spoken, and which annoys her so greatly. This I made out to be about the size of a cocoanut, and then on the right side of the uterus I found another similar mass, though of smaller size ; while peeping up from behind the body of the uterus there was still another one. Here, then, was undoubtedly the diagnosis, uterine fibroids, and I now represent for you on the blackboard the relative size and positions of the three tumors.

Originally, these fibroids were, perhaps, situated in the structure of the uterine walls ; and if this was the case, they no doubt set up an endometritis, the ichorous discharge resulting from which may possibly have destroyed the vitality of the spermatozoa with which it came in contact, and so prevented the occurrence of pregnancy.

Why should this patient experience shortness of breath? Simply because the condition present in her case is almost invariably accompanied by a depreciated state of blood. After the menopause, uterine fibroids never increase in size. On the contrary, they gradually become more and more atrophied, and during the last five months these tumors have, no doubt, been diminishing in size. The reason that she has felt worse of late is, probably, due to the fact that she is suffering from the results of a prolonged impoverished condition of the system, which has become more serious as time went on. But, it may be asked, may not these tumors possibly grow still? Yes, it is altogether possible, although it would render the case an exceptional one. For instance, the growth on the left of the uterus might become sarcomatous, the one on the right might become cystic, and so change to a fibro-cystic tumor, while the one behind might become carcinomatous. Under these circumstances they would probably increase in size, but they would have changed their character completely, and would no longer be simple fibroids. In the earlier part of the course you will, perhaps, remember that I told you of a large tumor which I removed at the Woman's Hospital from a patient who was long past the menopause, and which was pronounced by one of the most accomplished microscopists in the city to be of a fibroid character. I am thoroughly convinced in my own mind, however, that the microscopist is mistaken, and for the reason that in all my experience I have never known or heard of a fibroid tumor existing in a state of vitality after a final cessation of the menses. I believe that the growth was really of a sarcomatous nature at the time that it was removed, whatever may have been its character at an earlier period of the patient's life. In the present case, the time for local treatment (should any have been desirable previously) is now passed. The woman is simply a candidate for general treatment, and what she needs is tonics, good food, and plenty of fresh air.—*Medical and Surgical Reporter.*

CLINICAL LECTURE ON TETANY. Delivered at University College Hospital, by W. R. GOWERS, M.D., F.R.C.P., Assistant Physician at University College Hospital, and Physician to the National Hospital for Epilepsy and Paralysis.

GENTLEMEN: I propose to show you to-day an example of a very rare disease—the spasmodic affection which is termed "tetany." So rare is it, that probably none of you have hitherto seen a well-marked case, at least in an adult. Because a disease is uncommon it is not, therefore, to be disregarded. There are few diseases, however infrequent, which some of you will not meet with in the future. It is necessary for you to be acquainted with the diseases which are rare, as well as familiar with those which are common.

The patient before you is a cook by occupation, single, and 40 years of age. There is nothing in her present healthy aspect to suggest that she is the subject of any malady. But it was otherwise, as some of you may remember, when she first came into the out-patient room, about six weeks ago. Her arms and hands were then fixed by spasm in a peculiar manner. The elbow-joints were slightly flexed, the wrist-joints in somewhat greater degree, while the fingers were strongly flexed at the metacarpo-phalangeal joints and extended at the others, the thumb being adducted and pressed against the side of the first finger so strongly that its last phalanx was bent backward. The spasm was attended by a painful sense of traction in the affected muscles ; it could be overcome by force, but the attempt gave much pain, and the hands afterward at once resumed the same posture. The legs were free from spasm, and she could walk well. She told us that for three months similar attacks of spasm had come on each morning, which passed away in an hour or so. During the day she would be free, but each evening the spasm recurred. In some of the previous attacks the legs had become stiff. On the day on which she came to the hospital the spasm had continued without remission. Inquiry into her history elicited no symptoms of hysteria, and nothing in the past, save overwork, to which the affection could be ascribed. The next day the spasm resumed its intermitting type, coming on in the morning and passing away, to recur in the afternoon and evening. Since then the attacks have gradually become slighter and briefer, and there is now only a little stiffness of the hands for half an hour after rising in the morning. From the first, when the hands were free from spasm, this could be readily induced by pressure on the position of the nerves of the arm. I will show you this effect. I press firmly on the nerves just below the brachial plexus. At first no change is seen ; but now, about a minute having elapsed, you may notice a slight quivering of the abductor indicis, and then the index-finger becomes slowly flexed at the metacarpo-phalangeal joint ; the thumb is gradually pressed against it, and next the other fingers are flexed in the same manner ; last of all, the wrist also becomes flexed. The pressure being discontinued, the spasm lasts for a few minutes and then passes off. If I compress in the same way the nerves of the left arm, the spasm is induced in like manner in the left hand. No such effect is produced in health by similar compression. There has been much discussion whether the result is due to the compression of the nerves or of the brachial artery which runs beside them. But that it is due to compression of the nerves is proved by the fact that in this patient I can produce it by pressing on the ulnar nerve, away from the brachial artery. A morbid irritability of the nerves is also conclusively shown by the effect of percussion of the nerves. If I give a smart tap to the nerves of the arm, it causes a single quick contraction of the muscles. This is still distinct, although less than it was a few weeks ago, as the patient is recovering, and it was then even more conspicuous in the facial than in the brachial nerves. The slightest tap on the facial nerve in front of the auditory meatus caused an instant momentary contraction in all the facial muscles, exactly similar in character to that produced by the stimulation of a healthy nerve by a single induction shock. The increased irritability of the nerves was as great to electrical as to mechanical stimulation. It was equally marked to faradism and voltaism. The voltaic current, for instance, from a single Coxeter cell caused contraction in the muscles supplied by the nerve. There was also a qualitative change in the mode of reaction. In health, as you know, if the strength of the current is slowly increased, the first contraction is obtained when the negative pole (kathode) is on the nerve and the circuit is closed, or, in the usual terminology, the K.CL.C. (kathodal closure contraction) is the earliest, and a stronger current is required to cause contraction when the positive electrode is on the nerve and the circuit is closed or opened (A.CL.C., A.O.C.); while a still stronger current is necessary to cause contraction when the negative pole is on the nerve and the circuit is opened (K.O.C.). In this patient, however, the earliest reaction (with one cell) was the positive opening contraction (A.O.C.), and two cells caused not only positive and negative closure contraction, but also distinct tetanic contraction the whole time the current was passing.

Such, gentlemen, are the main points in the case. As the disease is rare, it may be well briefly to mention the chief facts regarding its causation and clinical features. The general history of the disease has been ably sketched by Trousseau,* Riegel,† and Weiss,‡ abroad; and in this country by Buzzard § and Abercrombie.‖ The conclusions of these observers I have endeavored to verify and extend by an examination of the details of 150 cases, eight of which have come under my own observation, and the others have been recorded by various writers.¶ I need not trouble you with statistical results, except as regards age and sex. On other points I will merely give you the chief conclusions which a comparison of these cases suggests.

Tetany is rather more frequent in males than in females, the ratio being as 7 to 6; but this relation, as we shall see, does not obtain at all ages. The disease occurs at all periods of life, from infancy to old age, but is most frequent in early childhood and in early adult life, as is shown by the following table of the cases in which age is mentioned:

Age.	Males.	Females.	Total.
1—4	26	8	34
5—9	5	3	8
—	—	—	—
1—9	31	11	42
10—19	23	13	36
20—29	9	15	24
30—39	4	19	23
40—49	5	8	13
50—61	4	0	4
	76	66	142

Thus the disease is most frequent in infancy and in the second decade of life. More than half the cases occur during the first twenty years. During early childhood the disease is far more frequent in males than in females (as 3 to 1). Between the ages of 20 and 50, however, the liability of the sexes is reversed, and females suffer twice as frequently as males. Over 50, on the other hand, the affection is practically confined to males. A neuropathic heredity can rarely be traced; but that a family tendency to the disease may exist is shown by some facts recorded by Abercrombie, who, in an interesting description of the disease as it occurs in children,** has mentioned one family in which three cases occurred, and two others in each of which four children suffered.

A direct exciting cause can be traced in about three fourths of the cases,

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[*] Clinical Lectures, Bazire's Trans., p. 373.

[†] Deut. Archiv f. Klin. Med., Bd. xii., 1863, p. 405.

[‡] Volkmann's Klin. Vorträge, No. 189.

[§] Clinical Lectures on Diseases of the Nervous System, p. 411.

[‖] On Tetany in Young Children. London: Baillière. 1880.

[¶] Abelin, Abercrombie, Aran, Berthelot, Broadbent, Brunniche, Burresi, Buzzard, Cheadle, Chvostek, Cruveilhier and Herard, Culmann, Dance, De la Berge, Depaulaine, Eisenlohr, Falkson, Frey, Fuekel, Gauchet, Gluzinski, Green, Grisolle and Gery, Guersant and Baudelocque, Haddon, Herard and Gauchet, Imbert-Goubeyre, Jadelot, Kjellberg, Kussmaul, Larquet, Lasègue, Lussana, Maccall, Marfan, Marotte, Mikshick, Miller and Seitz, Moxon, Nönchen, Perrin, Piogey, Quincke, Rabaud, Revillont, Riegel, Rilliet and Barthez, Ritchie, Sacre, Salomonsen, Sandras, Schultze, Skoda, Sonrier, Stich, Tobiesen, Tonellé, Trousseau, Van der Espt, Verdier, Weiss, Weisse, Wilks. I have only included the cases of which full particulars are given.

[**] Cambridge Thesis on Tetany in Young Children. London: Baillière. 1880.

and the absence of such cause renders the case I have shown you somewhat exceptional. The most frequent excitant is diarrhœa, long-continued and exhausting. Next in frequency are exposure to cold (especially when conjoined with fatigue), acute disease, and lactation. A series of cases in women who were suckling led Trousseau to propose for the disease the name of "nurse's contracture;" but this cause, as he afterward found, is not so frequent as to justify the designation. Tetany may also come on during pregnancy, usually in the second half, and after delivery. The relative frequency of the disease in adult women is due almost entirely to these various influences of maternity. Other occasional causes are simple anæmia, prolonged muscular efforts, alcoholism, and sexual excess, especially masturbation. I have once seen it as a consequence of lead-poisoning. In young children it is usually associated with rickets, and is evidently closely allied to the "carpopedal contractions," which are so common in that disease. Laryngismus stridulus and convulsions are frequent accompaniments. In three recorded instances the affection was apparently due to tapeworm, and ceased when this was expelled. Traumatic causes are extremely rare, and yet, strange to say, one surgical operation, excision of an enlarged thyroid, has been followed by an attack of characteristic tetany in four instances.† Although an association with hysteria has been occasionally observed, it is certainly infrequent and exceptional. The acute diseases during or after which tetany has been observed, are (in the order of frequency) typhoid fever, small-pox, cholera, rheumatic fever, measles, febricula, catarrh, and pneumonia. In some epidemics of typhoid fever it has been comparatively frequent, coming on in the latter period of the disease or during convalescence. Lastly, singular epidemics of tetany have been met with, and in some of these hysteria has probably played a larger part than it does in the sporadic cases. In a girls' school in France, in 1876, thirty cases occurred. A still more singular epidemic occurred in certain Belgian prisons in 1846.

The symptoms of the disease, in a moderate degree of severity, are well exemplified in the case I have shown you, and I need not redescribe them. The peculiar posture of the hands during the attacks of spasm is that almost invariably observed, but in a few recorded cases the fingers have been flexed at all joints and the fist thus closed. Still more rarely the wrist and fingers have been extended. In cases of slight and moderate degree the spasm is confined to the hands and forearms, but in the more severe form the lower limbs are also involved. The feet are extended at the ankle-joint, and re-inverted in the position of talipes equinovarus. The toes are strongly flexed. The knees are usually extended, rarely flexed. In cases of still greater severity the muscles of the trunk and head participate in the spasm. In the trunk the abdominal muscles, the flexors, suffer more than the extensors of the spine. The thorax may be fixed by the spasm, and even the diaphragm may be involved. Hence respiration is interfered with to the degree of causing cyanosis, and even loss of consciousness. The sterno-mastoids may be rigid, and the head bent forward. Not unfrequently the jaws are closed by spasm in the masseters. The angle of the mouth may be drawn outward, and the eyes are half shut by contracture in the facial muscles. Movement is interfered with by the spasm, and in proportion to it. There is no paralysis.

Slight contracture may be painless. When considerable, there is usually an unpleasant sense of traction in the affected muscles, sometimes amounting to cramp-like pain, and sharp pains dart up the limb, often taking the course of the nerves. Tingling in the extremities may precede or

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* Weiss.

accompany the attacks of spasm, and sometimes persist in the intervals, accompanied, very rarely, by an actual loss of sensibility to touch, or pain, or both.

The spasm is usually, as in this case, paroxysmal. The attacks are separated by intervals of perfect freedom. The duration of each attack may be a few minutes, hours, or rarely one or two days. The intervals between the paroxysms may be a few hours or a day or two. As a rule, the briefer the paroxysms the more frequently do they recur. Sometimes a slighter degree of spasm continues during the intervals, usually in the arms, rarely in the legs. In other cases, again, in both children and adults, the spasm may continue, scarcely varying in degree, for several days. Thus we may distinguish intermitting, remitting, and continuous forms. But cases are met with which present all gradations between these varieties.

The remarkable alteration in the irritability of the motor nerves has been already mentioned in the description of the case before you. In some cases, as Erb first showed, it is carried to a still higher degree. Not only, as in this patient, is the anodal opening contraction most readily produced, and continuous "tetanic" contraction attends the passage of the current, but a similar tetanic contraction may be induced by the anodal opening stimulation—that is to say, when the positive electrode is placed on the nerve, and the current is broken, so that the current ceases to pass, a prolonged contraction results. This phenomenon is of peculiar interest, since in no other condition has the "anodal opening tetanus" been observed in man. The change in nerve-irritability usually persists a week or two longer than attacks of spasm, but this rule is not invariable. In this patient, for instance, although the spasm still continues in the arms in a slight degree, the irritability of the nerves is becoming normal; the earliest contraction is no longer produced, as it was a few weeks ago, by the anodal opening, but, as in health, by the kathodal closure stimulation.

When the paroxysms are very severe there may be copious perspiration, and sometimes local vaso-motor disturbance, redness, and even slight œdema in the affected parts. The pulse is quickened, and, in some cases, a rise of temperature (even to 101° F.) has been observed. But in cases of moderate severity, and also in continuous tetany, these phenomena are absent. The urine, as a rule, is normal, but transient albuminuria has been twice observed,* and once glycosuria coincided with the attacks.†

The paroxysmal form of tetany may be either slight or severe, but the continuous form never presents a very intense degree. In young children tetany is usually continuous, but the intermitting form is not unknown. In older children and adults it is rare for the spasm to be continuous for several days; as a rule it is intermitting, or there are considerable remissions in its degree. Continuous tetany may persist while the patient is asleep; in the intermitting form attacks occasionally, although not frequently, come on during sleep. The total duration of the disease varies much. Either the continuous or the intermitting form may last for a few days only. But it is not uncommon for the intermitting form to last for several months. In the patient before you the affection has already lasted for more than four months, and it will probably be another month before she is well. But it is rare for the continuous form, in which the spasm goes on without interruption or considerable remission for several days, to last for more than a few weeks, in adults at any rate. In the majority of cases in which the spasm continues for more than three days, the patient has only one attack; in only a few cases have there been two attacks, and the total duration of the disease has never exceeded a month. The disease is prone to occur either under the influence of an obvious excitant, or sometimes without any appreciable cause. A woman, for instance, suffered from it while suckling each of five children;* another patient had an attack in each of ten successive winters.† In some instances several years have intervened between the attacks—three, six, and even eleven.‡

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* Kussmaul, Nönchen.

† Stich.

Almost all cases end in recovery. Death, when it has occurred, has usually been due, not to the tetany, but to its cause, as diarrhœa. In a very few instances the spasm has caused death, either directly by exhaustion from its violence (as in a case recorded by Trousseau), or directly by the influence on the lungs of the repeated interference with respiration, which has induced pulmonary congestion and a low form of pneumonia. Nor does it, as a rule, leave behind any troublesome sequela. In a few cases weakness of the leg was persisted for a time. It has once been immediately followed by chorea§ and once by acute and general muscular atrophy.‖

The little that is known of the pathological anatomy of the disease throws no light upon its nature. In a few cases minute changes have been found in the spinal cord,¶ capillary hæmorrhages, accumulations of lymphoid cells around the blood-vessels, and minute foci of myelitis. These are, doubtless, of secondary origin, the result of the acute disturbance of function, and afford no indication of the morbid influence by which the function is disturbed. The one almost solitary fact which we have to guide us in seeking for the seat of the disease is the change in the irritability of the motor nerves. This proves beyond a doubt that the nutrition of these nerves is changed. But such a change in the nerves suggests a similar change in the motor nerve cells of the spinal cord. Of these the motor axis-cylinders are the processes, and share the changes in nutrition of the parent cell. Moreover, the spasm itself indicates that there is a morbid state of gray matter, since we know that only nerve cells can liberate the energy which causes spasm. We may feel sure, therefore, that the motor nerve cells of the cord and the fibres proceeding from them are in a morbid state. The tingling and impaired sensibility occasionally observed suggest that the sensory cells of the cord may participate in the alteration. But here we must stop. Whether the morbid condition arises primarily in the cord or descends from higher centres, we cannot tell, and opinions which have been put forward, that this or that part of the brain is the seat of the disease, are still in the region of unsupported theory. In passing, however, I may direct your attention to the peculiar position which the hand almost invariably assumes during the contracture, a position determined by the predominant spasm in the interossei and some of the lumbricales. It is the opposite posture to the flexion of the phalanges at all joints, in which the "fist is closed." The posture is evidently one of high physiological importance. It enters, in greater or less degree, into many delicate movements of the hands, as in writing; whereas the flexion to the phalanges at all joints occurs especially in coarse movements of the limb, as in lifting a weight. Evidently the "interosseal flexion," as it may be termed, depends upon well-organized nervous arrangements; but where these are placed we do not know, and hence we are ignorant of its localizing significance. It is conspicuous in many cases of post-hemiplegic mobile spasm, an approximation to it is observed in paralysis agitans, and it is the most common posture of the hands during epileptic fits. Probably it ultimately depends on nervous arrangements situated in the cerebral cortex ; but doubtless, if so, there are corresponding subsidiary arrangements in the lower centres, even in the spinal cord, through and by means of which it is effected. Hence this posture does not, in itself, justify us in going for the seat of the disease beyond the spinal axis (including the gray matter of the pons and medulla), in which, as we have already seen, a morbid state is indicated by other symptoms.

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* Maccall.

† Lussana.

‡ Chvostek

§ Salomonsen.

‖ Bondet.

¶ By Weiss, Langhans, and Ferraris.

Of the nature of the change in the nerves and their centres we know almost nothing. The enduring alteration in function, demonstrated by the change in mechanical and electrical irritability, conclusively proves some change in their nutrition, but the fact that this change remains limited to increased irritability, and in the end passes away entirely, proves that it is comparatively slight in degree and probably limited to such fine molecular changes as could not be recognized by any means of investigation at present at our disposal. "Vaso-motor spasm" in the nerve centres has been invoked as an explanation of the attacks of contracture, but it seems to me without sufficient reason. There is nothing in the symptoms to suggest the hypothesis ; the adequacy of the mechanism is as unproved as it is improbable ; and it leaves unexplained the one fact of the functional alteration in the motor nerves, which is at present the only pathological indication we possess. But functional excitement in the nervous system often induces vaso-motor disturbance, both central and peripheral. The vaso-motor symptoms which have been, in rare cases, observed at the periphery were clearly secondary in time, and we are justified in assuming that the same is true of the slight and variable traces of similar disturbances in the spinal cord (leucocytal aggregation about the vessels) which have been discovered in one or two severe cases.

In chronic poisoning by ergot there is often contracture which singularly resembles that of tetany, and the similarity has struck many observers,* and has suggested the dependence of the disease we are now considering on some toxic influence. But the significance of etiological facts is on the whole opposed to such an assumption. Although in some cases reflex irritation has appeared to excite the disease, it is doubtful whether this plays a large part in its pathology.

The diagnosis of a case of tetany rarely presents any considerable difficulty. The symptoms are characteristic, and in the paroxysmal form are unique. In spite of the unfortunate resemblance in name, it could be confounded with tetanus only in cases in which the spasm develops suddenly with extreme violence, and such cases are so rare that only one or two have ever been recorded. It is sufficiently distinguished in ordinary cases by the peculiar posture of the hands, by the invariable commencement of the spasm in the extremities, and by the fact that the masseters, which generally are the first to suffer in tetanus, are always the last to be involved in tetany. In organic cerebral disease, attended with contracture, this is usually unilateral, and continues not only for a day or two, but for months ; there is paralysis as well as spasm ; and cerebral symptoms are never absent. Hysterical contracture may resemble tetany in form, but is almost always unilateral. In ergotism the spasm is secondary to other symptoms, and the disease is fortunately scarcely ever met with in this country.

Only under two conditions is the prognosis other than favorable. If the paroxysms are extremely violent, and interfere distinctly with respiration, the disease may be fatal from pulmonary complications. Secondly, if the tetany is due to grave debilitating disease, there is considerable danger to life from this cause ; but the prognosis in such a case depends on the primary disease rather than on the secondary malady. The duration of the affection is often difficult to foretell. It will probably be brief if the disease depends on a cause which is speedily removable. It is likely to be long if there is a distinct alteration in the irritability of the motor nerves. If, in an adult, the individual attacks continue for several days, the disease is not likely to last more than two or three weeks.

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* Imbert-Goubeyre (1844), Hasse, Moxon, Eulenberg.

The treatment must first be directed to the removal of any derangement to which the disease is apparently due. Diarrhœa must be arrested ; lactation stopped. If the affection followed exposure to cold, and the case is seen early, warm baths and free diaphoresis should be employed. The treatment of the developed malady itself consists in the diminution or arrest of the attacks by sedatives, and in the removal of the morbid state on which they depend by tonics. For the former purpose bromide of potassium is the most effective, but it must be given in full doses, as half a drachm three times a day. Chloral, Indian hemp, and hypodermic injections of morphia have also been found effective, but, as a rule, the bromide answers best. The inhalation of chloroform at first increases the spasm, but all contracture disappears when the patient is fully under its influence, although the subsequent recurrence of the spasm is not thereby prevented. Stimulating liniments to the extremities and ice to the spine have also been observed to lessen the spasm. The voltaic current has been said to do good in some cases, but in others it has so distinctly failed that it is doubtful whether the improvement ascribed to its influence may not have been due to other causes. Those of you who have not read Trousseau's striking lecture on the disease will be startled to learn that the chief treatment for the malady in France twenty years ago was venesection, and what is still more surprising, it is said to have been followed by rapid recovery, even in weakly women. But it was not invariably successful, and where it failed tonics often succeeded.

The most useful tonics are, as might be expected, iron, quinine, and strychnine. In very slight cases no other treatment is needed. The patient you have seen is taking only tincture of nux vomica, and, as you have heard, she is steadily getting well, the disappearance of the augmented irritability being a satisfactory proof of the reality of her progress. The continuous tetany of young children is less amenable to sedatives than the paroxysmal variety of adults ; and the most important element in its treatment is that of the rickety diathesis which accompanies it, and on which it certainly to a large extent depends.—*Lancet.*

PROCEEDINGS OF SOCIETIES.

Obstetrical Society of Philadelphia.—A Stated Meeting was held March 1, 1883, the President, R. A. Cleemann, M.D., in the chair.

MEDICAL NEWS.

DOUBLE ENUCLEATION OF UTERINE FIBROIDS.

Dr. W. Goodell presented the specimens and reported the case. Mrs. B., a Hebrew lady, aged thirty-eight, and the mother of five children, the youngest five years old, began, early in 1880, to have menorrhagia and micturition. Afterward, her physician, Dr. A. H. McAdam, discovered a uterine fibroid. In January, 1881, Dr. Goodell was called in to see her. He confirmed the diagnosis, and found a fibroid in the anterior wall of the womb, bulging out the anterior lip of the cervix, which was greatly hypertrophied, but not at all enlarging the os. The sound gave a measurement of six inches. As all remedial measures wholly failed, he admitted her into his private hospital, and, on February 6th, cut into the tumor by means of Adams's subcutaneous saw, and by enucleation removed most of it. A month later the fragment left behind descended low enough to be removed without difficulty. The tumor weighed not quite two pounds. At the time of this last operation a small fibroid was discovered in the posterior wall of the womb, but it was too high up to be attacked. Her convalescence was prompt, and her monthly flux became natural. On October 6th the sound gave a measurement of only three inches, and she felt well. But in the following March she again sought his advice for a return of the menorrhagia. A fibroid was now bulging out of the posterior lip of the cervix, but not expanding the os. The uterine cavity measured five inches. As all remedies again failed, enucleation was once more proposed, and, on February 28, 1883, the operation was performed for the second time. The posterior lip of the cervix was cut open by the saw without invading the uterine cavity, and, after an hour's hard work, a tumor weighing one pound and a half was taken away in fragments. Several very beautiful and perfect fibroids, as large as a pigeon's egg, were also removed. They were attached to the capsule of the mother tumor merely by loose connective tissue. About a pint of blood was lost during the operation, but after the removal of the tumor the hæmorrhage ceased, and the cavity left behind was not tamponed. The patient is doing very well, although the shock was somewhat profound.

In commenting upon this case, Dr. Goodell remarked that the to-and-fro linear movement of the saw made it a very efficient instrument for working in narrow channels, and that it had the further merit of lessening the amount of hæmorrhage. He now used no other instrument for incising the capsule of fibroid tumors. The history of this unique case had somewhat shaken his confidence in the operation of enucleation, because, since the womb was affected usually with multiple fibroids, some one of these must invariably be left behind, and a second operation become needful. He believed that in these cases oöphorectomy, as a safer and surer remedy, had a future before it. He had, in fact, performed the operation four days ago on a lady who was so feeble from prolonged hæmorrhage that he did not dare to remove the fibroid by enucleation, which was a more prolonged operation, and attended by a greater loss of blood. She was doing very well indeed. For the same reason, not daring to enucleate, he had early last year removed both ovaries for a bleeding fibroid, but after a remission of several months the hæmorrhage returned, and he would probably have to perform enucleation or hysterectomy.

Dr. B. F. Baer inquired if the tumor in the case in which hæmorrhage returned after oöphorectomy was not of the sub-mucous variety? Ought not the operation to be limited to the insterstitial and subperitoneal varieties, where enucleation was not possible? In one case reported by Dr. Byford, of Chicago, a uterine (sub-mucous) fibroid had gone on increasing, and hæmorrhage had continued after oöphorectomy.

Dr. Goodell, from *a priori* reasoning, would expect less favorable results in sub-mucous tumors, as they were more like polypi in their character, and would be more likely to continue to bleed. The tumor referred to, for which oöphorectomy had failed, was of the sub-mucous type, and could have been removed by division of the mucous membrane and enucleation had the patient's condition permitted it.

INDUCTION OF PREMATURE LABOR FOR THE RELIEF OF SUPPRESSION OF URINE.

Dr. B. F. Baer narrated the history of a case in which this procedure was considered necessary. The case occurred in the practice of Drs. Marcy and Mecray, of Cape May, N. J. About the sixth month of pregnancy a general œdema was noticed, and the urine contained considerable albumen and a few casts. The amount of urine passed diminished rapidly, while the proportion of albumen increased, and the patient became weak and anæmic. Every means was tried to increase the quantity of urine, but without avail. Among the remedies used were a wide range of diuretics and hydragogue cathartics, with Basham's mixture. A sudden suppression of urine occurred at eight months, and but four ounces were passed in forty-eight hours; this became solid when heated; headache and spots before the eyes were now added to the other symptoms; a grumous discharge from the uterus had been noticed for a week, and convulsions seemed threatening. Dr. Baer was called in consultation, and he agreed with them as to the advisability of inducing premature labor. A No. 9 flexible catheter was warmed and softened, and was, after great difficulty, introduced between the membranes and the anterior wall of the uterus. The cervix uteri had been lacerated in a previous labor, and was hard and small. Pains of a natural character followed immediately upon the introduction of the catheter. After some hours the pulse became weak and the patient faint; the os was but slightly opened, and it was considered advisible to administer stimulants, use Barnes's dilators, and the Hodge forceps; a dead child was speedily extracted. The latter had been alive in the morning. Four hours after delivery, urine was secreted, and in two days the albumen had entirely disappeared. The patient recovered.

INDUCED PREMATURE LABOR FOR GREAT ŒDEMA OF THE LABIA MINORA.

Dr. D. F. Willard reported the case of a patient, probably over forty years of age, who had been married about one year, and was pregnant with her first child. She suffered from headache, her feet and eyelids were swollen, and her urine showed one sixth albumen and contained casts and blood-corpuscles. Basham's mixture, diuretics of every kind, diaphoretics, hot-air baths, hydragogue cathartics, and tonics were used without a satisfactory result. Digitalis infusion and jaborandi alone gave a very temporary relief. The patient, soon after her first visit, called attention to the condition of the labia minora, which were found to be enormously swollen, shining, tense, and pitting on pressure. The urine amounted to from fifteen to thirty ounces daily, and steadily decreased in quantity. The œdema of other portions of the body decreased under the use of digitalis, but that of the labia increased. The patient could lie only upon her back with her knees drawn up and as widely extended as possible; the pain was great and constant; lancet punctures were made with temporary relief. The patient was steadily failing; her pulse was 150 per minute. An erysipelatous blush made its appearance and rapidly spread to the abdomen and thighs. Premature extraction of the child offered the only chance, and was at once performed. Gestation had reached eight months. It was a difficult task, as the labia were five inches in depth. Barnes's dilators and the Hodge forceps were used, and delivery was accomplished in two hours. The child was dead, and the mother died three hours later.—W. H. H. Githens, M.D., *Secretary*.

ACADEMY OF MEDICINE IN IRELAND. THE THIRD STAGE OF LABOR. —At the meeting of the Obstetrical Section, on March 30th, 1883, Dr. R. Henry read a paper on the Importance of the Third Stage of Labor. He commenced by pointing out the various risks, immediate and remote, to which the improper performance of the Third stage of labor exposed a woman. These risks could be minimized by a suitable conduction of the most important period of labor. To arrive at any just conclusion on this subject it was necessary, in the first place, to study nature's methods in effecting the separation and delivery of the placenta and membranes, by the conjoint action of tonic and clonic contractions moulding the placenta, as had been described by Dr. Matthews Duncan, or in the different way described by Schultze. In the author's experience both these methods had been observed, a lateral attachment of the placenta being Duncan's, while a fundal or nearly fundal one would give Schultze's. The former was the more common method. Dr. Henry quoted Denman, Smellie, Collins, and others on the question of manual interference in the third stage. In 1786 Dr. Joseph Clarke had advised the practice of "pursuing with a hand on the abdomen the fundus uteri in its contractions until the fœtus be entirely expelled, and afterward continuing for some time this pressure, to keep the uterus, if possible, in a contracted state." This practice has been largely adopted in Dublin. Dr. Henry adhered to it, believing that in modern practice undue haste to press off the placenta is exhibited. He kept his hand over the uterus during delivery and subsequently, but forbore pressing or actively supporting the uterus until it had itself commenced to contract clonically. Assistance should only be given with clonic contractions. A safe and permanent contraction following the expulsion of the secondaries might in this way be usually secured in from ten to twenty minutes. The chief error at present consisted in mistaking constant irritation for support of the uterus.—The President said the paper raised several questions of deep interest—viz., as to the time at which the placenta should be removed; as to the danger, on the one hand, of being too precipitate, and on the other of leaving in the placenta too long; as to how far hæmorrhage was sometimes induced by too speedy removal, and at other times by leaving the placenta too long in the uterus; and also as to the danger of leaving in portions of the membranes.—Dr. Harley objected altogether to premature pressure over the fundus of the uterus for the purpose of pressing off the placenta. He also objected to exercising pressure on the cord at any period.—Dr. W. J. Smyly stated that in the Strasbourg Hospital, where the patients were as a rule, left to nature during the third stage of labor, it had been observed that the placenta was most frequently expelled in the manner described by Schultze. He believed that Credé's method of exciting the uterus to contraction had been confounded with the hasty expulsion of the placenta. Credé himself never advocated the immediate expression of the placenta, but rather the immediate excitation of the uterus by irritation and friction through the abdominal walls, and then usually with the third or fourth contraction the expression of the after-birth. The immediate expression of the placenta was very liable to be followed by retention of the membranes and post-partum hæmorrhage. —Dr. Macan said that since the time of Hippocrates there had been ebbs and flows of opinion as to whether expulsion of the placenta should be left entirely to nature, or should be immediately effected by the accoucheur, either by passing the hand into the uterus, as the older authorities recommend, or by the more modern treatment of expression. Hence he thought that a happy mean between these two methods was probably the best way, for if the uterus was well contracted, there need be no fear of hæmorrhage, and therefore no cause for hurry; while if the uterus was relaxed with hæmorrhage, the removal of the placenta tended certainly to increase the hæmorrhage by removing all pressure from the mouths of the uterine sinuses, unless the means used to remove it at the same time caused the uterus to contract. The great advantage claimed at the present day by the adherents of the plan of leaving the whole process to nature, was that a much larger portion of the decidua came away with the placenta than when the placenta was immediately removed. When two such authorities as Dr. Matthews Duncan and Professor Schultze differed as to the mechanism of the separation and expulsion of the placenta, it was pretty certain that there was more than one way, and that both their views were probably right. If they adopted the expression plan, which might, he thought, be called "the Dublin method," they should be careful not to allow the placenta to be suddenly expelled on to the bed; for a sudden strain was thus put on the membranes, and a portion might readily be torn off and left behind in the uterus. This has been looked on as a very serious accident. But he was inclined to think that the mere presence of a portion of the membranes in the uterus for some days after delivery could not be looked on as dangerous unless air had been allowed to enter and set up decomposition. He also thought that it was very often during the efforts made to remove a piece of retained membrane that the air was caused to enter the uterus. He had often seen a piece of the membrane expelled some days after delivery without being accompaned with the slightest fetor or giving rise to the least fever. Indeed, it seemed to him probable that, in hospital practice at least, the danger from retention of a portion of the membrane was less than the danger of infection from the hands of the operator in his efforts to remove it. He always waited a quarter of an hour before attempting to press off the placenta, and considered that light friction over he fundus with the tips of the fingers was a much more powehrul method of inducing contraction than merely holding the fundus in the hands.—*Lancet.*

State Board of Health of West Virginia.—The State Board of Health convened at Martinsburg, Wednesday, August 11th, in annual session. There were present at this meeting the following members of the Board: Dr. Geo. B. Moffett, President, of Parkersburg; Dr. Lawrence Carr, Charleston; Dr. Geo. A. Carpenter, Moorefield; Dr. C. T. Richardson, Charleston; Dr. James E. Reeves, the Secretary, of this city; and Dr. Wm. M. Late, Bridgeport.

The Secretary read the minutes of the previous meeting, which were approved, and then followed his report of the business of his office during the preceding six months. Copies of correspondence with R. A. Harrison, Esq., of Columbus, O., were read, and the action of the Secretary in relation thereto was fully indorsed.

The visitation of small-pox in the counties of Mercer, McDowell, and Wyoming was next referred to, and the action of the local health boards in those counties in successfully stamping out the disease was shown to have been one of the good and grand results to the whole people of West Virginia of the passage of the State Board of Health law. Indeed, but for the specific powers granted under the law, and its energetic administration both by the officers of the State and county boards of health, the whole southern portion of the State would have been swept by small-pox from the starting-point in Mercer at a cost of both life and property which would have been impossible to estimate correctly. From the office of the Secretary of the State Board the fullest instructions were sent to the local health officers in the scourged district for the successful fight against the small-pox, all of which received the commendation of the State Board.

Another matter of great importance was in reference to the establishment of local or county boards of health. Under the law of 1881 the manner of their creation was, first, the nomination of three persons by the State Board of Health for each county. These nominations so made were either approved or rejected by the county courts. Now, under the amended act of 1882, the manner of establishing county boards is exactly reversed: the county courts nominate and the State Board confirms or rejects, as its wisdom directs. The term of office (two years) of the present county boards expires with this month, and it will be in order for the county courts to make their nominations for such officers to the State Board. That due notice shall be given, Dr. Reeves, the Secretary, was instructed to bring the matter, by circular letter, to the attention of the counties, and at the same time urge upon physicians full compliance with the law in relation to the duty with which they are charged of promptly reporting to presiding officers of county boards all cases of acute, contagious and infectious diseases under treatment. Four applicants for medical certificates presented themselves for examination, of which number Dr. Hoffman, of Keyser, was the only gentleman whose examination warranted the granting of authority to engage in the practice of medicine and surgery in West Virginia.

The question of the reputability of several medical colleges was next considered, and to the list of medical schools whose diplomas the Board had already refused to recognize was added the American Medical College, of St. Louis, Mo.

After auditing sundry bills, and fixing the next place of meeting—Charleston, Kanawha County—the Board adjourned.

North Texas Medical Association met at Sherman, July 18th, 1883, J. B. Stinson, President, in chair. Minutes of previous meeting read and adopted. Drs. H. A. Hughes, J. E. Gilchrist, and E. E. Winn admitted to membership. Committee on Necrology reported death of Dr. J. R. Bailey; resolutions of respect passed. Dr. Joseph Meyers reported case of monstrosity, the whole abdominal viscera being external, stomach, liver, spleen, kidneys, bladder, and other viscera being without any covering except partially or peritoneal, the abdominal walls being entirely absent; there was no distinct outline, but the vessels were grouped together between the membranes and communicating with the placenta. There was spina bifida, the tumor over coccyx measuring two and one fourth inches, filled with fluid or semi-fluid substance; legs bowed, talipes varus of right, equino varus of left foot. No anus, nor was the sex distinguishable, there being but a rudiment which resembled as much a clitoris as a penis. The cranium and thoracic cavity were perfect, also the upper extremities. The child had been dead about thirty hours. The mother was an epileptic, but had borne several healthy children.

Dr. Meyers also reported a case of scirrhus of left breast with amputation, operative procedure.

Com. on Practice being called, Dr. Kennedy, of Sherman, presented the subject. "Croup," which was discussed by Drs. Sanders, Fort, Gilchrist, and Hughes.

Com. on Surgery being called, Dr. Fort, of Paris, presented the subject "Antiseptic Dressings," reading an extract from a paper presented by him to the Texas State Association, taking the ground that the tendency of all wounds was to unite, but that the germs or micro-organisms that existed in the air or in the surroundings overcame that tendency, hence undue inflammation and suppuration; that the object of all dressings should be to exclude or destroy these irritants. He gave the primitive, barbaric, and savage mode of dressing, showing that they recognized and in a crude way attempted to exclude contaminated air. The doctor claimed that all modern treatment, whether we destroyed by antiseptics, excluded, or washed by constant stream, was based on the same principle, the prevention of the germ or micro-organism from coming in contact with the wound; that we killed it, kept it out, or washed it away. The subject was discussed by Drs. Sanders, Kennedy, Ferguson, Thompson, Hughes, Wells, Freeman, and Scott. Dr. Bacon Sanders gave his recent observations in the New York hospitals as to the dry and open (water) dressing of wounds, concluding that they gave equally satisfactory results.

On motion, the Association adjourned to meet at 10 A.M. Thursday. When called to order again, Section on Obstetrics being called, Dr. Hughes presented the subject "Instrumental Delivery," which was generally discussed, Dr. Fort enthusiastically advocating the use of forceps in inertia or retarded labor, claiming that delay was more dangerous to the mother, and very much more so to the child, than the forceps properly used could possibly be. Dr. Wright taking issue with Dr. Fort, said that the old mode of putting the baby in had not been improved on, and he was satisfied the old way of getting them out could not be. Dr. Hughes closed the debate.

On motion, the thanks of the Association were extended to Prof. Nash for use of his hall, also to various papers for their kindly notices and publication of proceedings. On motion, the Secretary was requested to prepare an abstract of the minutes and forward to Gaillard's Journal.

The President appointed the following Committee on Subjects, who selected their subjects for next meeting:

Practice, Drs. B. Sanders, W. E. Sanders, and Becton Subject selected, Typho-malarial Fever. Surgery, Drs. Hughes, Betting, and Johns. Subject, Abdominal Wounds. Obstetrics, Drs. Gilchrist, Thompson, and Fort. Subject, Use of Ergot in Obstetric Practice.

On motion, the Association adjourned, to meet at Honey Grove, Tuesday, October 16th, 1883.

S. E. BRAMLETTE, M.D., Secretary,
Honey Grove, Texas.

THE TRI-STATE MEDICAL SOCIETY will meet in English's Hall, at Indianapolis, on the 18th, 19th and 20th of September, 1883, commencing at 9 A.M. Excursion rates have been secured on the following railroads: C., C., C. and I.; Cin. Ind'pls, St. Louis and Chicago; Cin., Wabash and Mich.; Ind'pls and St. Louis; I., B., and W.; Wabash, St. Louis and Pacific; Ind'pls and Vincennes; J., M. and I.; Pitts., Cin. and St. Louis; Vandalia, Evansville and Terre Haute; Ft. Wayne, Cin. and Louisville. Hotel accommodations. The New-Denison, Grand, Bates and Brunswick have reduced their rates for the occasion, and everything promises a very large attendance. Many papers of great interest will be presented. For further particulars address Thos. B. Harvey, M.D., Indianapolis, Chairman of Committee of Arrangements.

G. W. BURTON, M.D., Secretary.
MITCHELL, IND.

WM. PORTER, M.D., President.
ST. LOUIS, MO.

SANITARY DEPARTMENT.

SEWERAGE IN SMALL TOWNS.—In visiting small towns thickly scattered over the country, any one who is familiar with the subject of the preservation of health and the prevention of disease from filth pollution, and who has kept in the least abreast of the movements for sanitary reform, cannot but be struck with the gross disregard of all the precautions which recent investigations have shown to be essential and which the public sentiment of more popular and enterprising communities has grown to demand. The streets may be nicely kept, the sidewalks paved, and the front yard adorned with grass and flowers, but in the rear is the nasty privy, generally near the well, the garbage heap close, by but perhaps out of sight behind the privy or the fuel shed, and frequently a stable with its festering manure heap hard by.

The rain-water flows from the streets into and through natural channels, and these coursing through back lots and open spaces are made the receptacle of all kinds of filth, until becoming offensive they are simply walled up and covered over. Their rough bottoms are covered with slime and nastiness only partly removed by the wash of a heavy shower.

An occasional drain is put down by private enterprise or public authority leading into their filthy streams, and these are laid out without regard to system or science, either in their size, their grades, or their construction. Few people know where they are, and no one cares except the owners, who are by their means enabled to carry their foul wastes away from their own premises regardless of whom they may injure.

There are over 4000 towns and villages in the country of less than 5000 inhabitants each which have a public water supply of some kind, and of these a very large proportion have no systen of disposal of their sewage except in cesspools on the premises of the householders.

In looking over the list of nearly 200 towns of between 5000 and 10,000 inhabitants which have a water supply, there are many which have no sewerage system.

Even where an effort has been made to construct sewers of one kind or another, the lack of system, the absence of constructive skill, and the disregard of good principles are painfully apparent in the majority of instances.

To illustrate. Not long since a party of gentlemen were driving through the streets of a prosperous village of some 5000 inhabitants in the State of New York, and passed an excavation on which some work was going on. The superintendent of the laborers, recognizing in the party some of the trustees of the village, hailed them thus: "I say! I wish you would send some one to tell me where to put in these branches. I don't know where they want to go."

The curiosity of a stranger in the party was excited by this address, and he alighted to see what was going on, and found the men laying a 24-inch earthen pipe diagonally across the street, without regard to line or much attention to grade, and not putting anything in the joints of the pipe. On inquiring how the joints were made, the contractor said, "Oh, we just pack the clay around them. This clay is better than any cement, I think." On further inquiry it was learned that the trustees had let the contract for a sewer in this street, on the petition of some residents, that they thought that a 24-inch pipe would be of about the right size and cost, and that there was no one to look after it particularly. The contractor was laying the pipe zigzaging across the street to accommodate the residents, and not oblige them to make such long connections from their houses to the pipe as a correct alignment of the latter would require. It was further found that several similar sewer pipes had been laid in the village, but neither the trustees nor any one else knew exactly where they were located. In this particular instance, a single glance would suffice for an engineer to see that the pipe used was altogether too small for rain-water discharge from the area drained, and very much too large for a separate system of house drainage.

Now, this is only one instance out of thousands which might be cited, of the persistent stupidity in regard to the management of public affairs, displayed by officials and by citizens too. The principles of sewer designing and construction are as well established and as much a matter of study and experience as those of law, of medicine, of farming, of mason-work, of blacksmithing or of trade. The person to apply them to practice is the engineer, and he is the only one who can do so successfully. For a lawyer, a doctor, and a merchant to get together and say how and where a sewer ought to be built, is as absurd as for an engineer, a farmer, and a mason to attempt to describe how a case of illness should be treated, or a blacksmith should shoe a horse.

There is only one rational way for a town to have its sewerage properly designed and constructed. The authorities should have a plan prepared by a competent and experienced sewerage engineer who has made such work his study, and should adopt that plan and the specifications prepared by the engineer, and adhere rigidly to them in the construction of every foot of sewer. The whims and the notions of "practical," "common-sense men" should be avoided in treating subjects which cannot be intelligently handled by practice unbacked by knowledge of principles, or common-sense unaided by experience. The cost of an intelligent plan will in every instance be saved in a very few years, and more likely than not in the first work constructed after its adoption.—*San. Engineer.*

The Air of Houses.—There is much confusion in the minds of some people, says the *Building News* (London) with respect to the dryness or dampness of houses. An air-tight room is more or less damp, though people are generally apt to think it otherwise if there is no draught, and all the air is carefully shut out. As a general rule, we invariably find the most draughty house is the driest, as it will be generally found to be the healthiest, if not the most comfortable, in cold weather. But the air of a room, as that for an invalid, may become too dry ; it may be overheated by a stove, which would become injurious to the patient. In certain cases vaporizers are now employed to give the air of the sick-chamber its healthful proportion of moisture.

Mr. G. J. Symons, in a paper on meteorology, has remarked that the subject of the hygrometry of the sick-room was unknown two generations ago. If, in addition to temperature, the quantity of moisture in a sick-room were indicated by the hygrometer, a great deal more might be done for the invalid's comfort. It is just as easy to regulate the hygrometric condition of the sick-room as its temperature, and, in many respiratory complaints, the former is even of greater importance than the latter. The hotter the air is the more water can it contain, and this condition does not appear to be apprehended by those who dwell in such rooms, or provide the means of heating and ventilating them.

Prof. Tyndall found that the moisture in the air of an ordinary room absorbs 50 to 70 times as much of the radiant heat as the air does. Moisture is the regulator and conservator of the heat, and in due quantity acts like a blanket, by protecting us from a too sudden cooling or heating. The question is one, we think, worthy of more attention by the sanitary builder than has been given to it. Complaints are loud against certain hot-air furnaces, as they overheat the air and render it unfit for breathing; they tend to scorch and dry the air, and to this extent they are unhealthy.

SANITARY NOTES.—The "Three Canons of House Drainage" were thus set forth by Mr. Rogers Field in a lecture at the Parkes Museum of Hygiene, July 5th: 1. All refuse matter must be completely and rapidly removed; 2. No passage of air can be allowed to take place from drains or waste-pipes into houses; 3. No communication can be permitted to occur between the drains and the water supply. The lecturer then proceeded to explain how the principles could be best put into practice. Drains to be self-cleansing must be laid in straight lines, must be water-tight, and have a certain fall; the soundness of the pipes and joints can only be guaranteed when, the outlet being closed, the drain holds water without any leakage. Traps which allow of deposit, such as the D and dip varieties, must always be rejected.

SANITARY ASSURANCE ASSOCIATION.—At a recent meeting of the Council of the Sanitary Assurance Association, Sir Joseph Fayrer, K.C.S.I., in the chair, the following resolution, recently passed by a meeting at Conduit Street, was considered, viz.: "That the Council of the Association be requested to consider whether they cannot recommend legislation compelling the builders of all new dwellings to obtain a certificate from some authority or qualified person as to their sanitary condition before it shall be lawful for such buildings to be inhabited." On the motion of Professor Hayter Lewis, seconded by Professor Corfield, a sub-committee was appointed to consider how best the object of the resolution may be attained, and, if desirable, to draft a bill, and report to the Council.

THE HOME AS A SANITARY UNIT.—No class have done so much for sanitation as the medical profession, and, indeed, it is mainly by their efforts, aided immediately in mechanical matters by the gentlemen who describe themselves as sanitary engineers, that the progress has been effected in public and private sanitation which has resulted in the annual saving of many thousands of lives. This addition, we have lately been told, on the highest authority, amounts to a gain of two years added to every individual life, in relation only to the progress of the last ten years. It must, however, always be remembered, and this is a lesson which medical men, who are largely occupied in the homes of the people, as well as being public advisers of local communities, can enforce better than any other persons, that it is to the work of the individual and to private initiative, that we must look for the major part of the further victories yet to be won. The State can do much in the way of regulation and assistance, but it is for the householder, for the capitalist, for the philanthropist, for the workingman, each in his own class and in his own capacity, to realize the vast importance of helping himself and helping his neighbor in this great work.

THE RELATIONS OF DRAINAGE TO THE DEVELOPMENT OF PHILOSOPHY—A NEW PROBLEM IN SANITARY SCIENCE.—A valued exchange calls attention thus to this great subject:

"When, a year ago, it was resolved to drain the town of Concord, Mass., there were, of course, obstinate persons who opposed the project, and insisted that it would not do any good. They asserted that if philosophy was the result of bad drainage, Concord would have been devastated by philosophy for the last hundred years ; whereas, it is notorious that philosophy first appeared in the town only twenty-five years ago, and was never present as an epidemic until within the last five years. Moreover, the opponents of drainage pretended to point out towns that were thoroughly well drained that nevertheless were hot-beds of philosophy, and other towns where both drainage and philosophy were alike unknown. It was inevitable that the scheme of draining Concord should meet with opposition, for such is the fate of all sanitary measures. Nothing is better established than that cholera is born and nurtured in dirt, but there are never wanting people who, in the midst of a cholera epidemic, will insist that cleanliness is unnecessary and vexatious. Fortunately, the friends of sanitary science were more numerous in Concord than were its opponents, and they were able to put their scheme into operation to some extent. The result has signally justified the wisdom of drainage, for it is announced that the annual summer outbreak of philosophy in Concord comes to an end this year two weeks earlier than heretofore. A result such as this is surely well worth a hundred times the amount of labor and money that has been expended in drainage.

"It is undoubtedly true that in certain towns, such as Cairo, Ill., and Hoboken, N. J., which are notoriously ill drained, philosophy is unknown ; but it is also true that cholera has never visited some of the filthiest cities in the world. It is not contended that lack of drainage will alone produce philosophy, but it supplies the conditions in which the germs of philosophy will grow and multiply. There would doubtless never have been a case of philosophy in Concord had the *germs of philosophy* never been brought to the place ; but when once the town was infected, the lack of drainage led to the terrible scenes of the past three or four summers. The most virulent form of philosophy, the dreaded and fatal cerebro-spinal Harrisism, would never have obtained a foothold in Concord had the town been supplied with a sufficient number of properly constructed drains. The ravages of that disease in St. Louis and Oshkosh (places where the drainage is simply deplorable) ought, one would have thought, to have warned the people of Concord of the terrible danger of introducing it into their very homes.

"While thorough drainage will doubtless vastly improve the sanitary condition of Concord, it is too much to expect that the town will be entirely rid of philosophy as soon as the work of drainage is completed. To accomplish this result, it would be necessary to tear down half the houses in Concord, to whitewash and disinfect the other half, and to burn most of the bedding, clothing, books, and other articles of portable property belonging to residents in whose houses *cases of philosophy* have occurred. The germs will remain in the town for months, and probably years, and occasional small *outbreaks of philosophy* will take place. We may feel confident, however, that drainage will so far overcome the evil, that Concord will become a comparatively safe place of residence, and will no longer deserve the name of the worst hot-bed of philosophy that this country possesses."

SANITARY PROTECTION ASSOCIATION.—At the Kensington Town Hall, Eng., a meeting of the London Sanitary Protection Association was addressed on Tuesday evening by the Duke of Argyll, who said the society urged the well-to-do householders of the country to take certain measures, which they believed to be necessary for the health of themselves and families. *The society was an insurance society*, and was better than the ordinary ones, for whereas they paid sums of money to the families upon *the death of the head of the family*, the society of which he had the honor of having been elected the President hoped to prevent death for many years, and to give increased length of life to all the members. [Cheers.] Their object was to put into the hands of the householders of the country, in a cheap and easy method, the power of knowing according to the best scientific methods whether or not their houses were in a healthy sanitary condition. That object was carried out by means of reasonable fees, varied according to the rent of houses. The society endeavored to associate householders together, so that whenever occasion for alarm arose at the condition of their drains they might have the services of one of the society's engineers to report upon the condition of those drains and the remedial measures expedient to be taken. The evil which the society proposed to remedy was one of the most deadly and insidious dangers existing in this civilized community. Persons were very serious when they heard the word poison mentioned, but they usually thought of poisoned food addressed to the human system through the stomach ; but the poison of that kind was much less dangerous than that addressed to the lungs. [Hear, hear.] In the former case there was a much greater chance of detecting the evil and remedying it : but as to the poison addressed to the lungs, there was often no warning whatever of the danger until the system was in many cases so thoroughly poisoned that health was lost for the rest of their lives. Frequently valuable lives were thus lost and happy homes and families laid desolate. The climate of this country, whatever else may be said against it, was almost entirely free from the terrible outdoor malaria which prevailed in many Continental countries. But we kept all our malaria for our own domestic houses, although we were free from it in the open air. The motto of the society was that prevention was better than cure, and, more than that, prevention was very often easy when cure was wholly impossible. [Cheers.] There were no diseases more deadly than some of those due to the foul air of drains. Those who succumbed the quickest to those terrible diseases were often young men with powerful frames. The causes of these diseases were perfectly ascertainable by medical science. The danger was aggravated by our system of drainage. for, until very recently, we were all living upon the top of enormous gas-holders of foul air. The drains were simply bottles of gas with no outlet except from the pipes which led into the houses. Those gas-holders of foul air, pouring their breath into the houses, must exercise a terribly bad influence upon the health of those who breathed it. [Cheers.] Mr. Bright had said it was absurd to suppose that we could not defend the hole which was to form the entrance to a channel tunnel, but the fact was we could not defend a hole a few inches square which let into our houses a far worse enemy than any that would come through the channel tunnel. [Hear, hear.] It was to provide a remedy for the evils of that character that the society had been established. Prof. Fleming Jenkin, Mr. E. C. Robins, Lord Chelmsford (who said he had recently taken a house, and by the aid of the society's agents had ascertained that not one of the drain-pipes underneath the house had been inspected), Prof. Huxley, and others addressed the meeting.—*London Standard.*

THE Sixth Ward Sanitary Association of Newark, N. J., in a vigorous way have lately recognized their own obligations toward preserving the public health. After declaring that the city has been remiss in not caring for the health of its citizens until every part of the city is foul with nuisances, they bound themselves as an association to oppose and remove every nuisance detrimental to the healthful and peaceful possession of their homes, and to not only look to their residences, but to the property in their neighborhood.

SEWERAGE OF KEENE, N. H.—The Drainage Construction Company of Boston has recently completed the construction of the system of sewerage devised by Col. George E. Waring, Jr., for the City of Keene, N. H., though considerably modified to reduce the cost, which has been about $75,000. There are three outlets, all into the Ashuelot River. The grade varies from one foot in 900 to one foot in 600. There are 9065 feet of 15-inch pipe, 3441 feet of 12-inch, 1178 feet of 10-inch, 2742 of 8-inch and 44,788 feet of 6-inch—a total of 11.6 miles in which there are 51 man-holes. Forty-four flush tanks discharge twice daily 140 gallons of water. The Aldermen have finally adopted an ordinance governing and regulating the care and maintenance of the sewers. The Superintendent of water is to have charge of the sewers.

CINCINNATI BOARD OF HEALTH AND HEALTH OFFICERS.—The *Cincinnati Med. News*, in speaking of the Health Department of the Queen City of the West, says of the present health officer and the previous one: "They are about as proficient in them [sanitary laws] as they are in Latin and Greek, and no one who knows them would hardly charge them with knowing that there ever had been such languages. They were elected to their positions by a foully corrupt Board which has been notorious for its accepting bribes, carousing in bawdy-houses, and of other vile conduct."

SANITATION.—Dr. R. B. S. Hargis, in "The Genius of Medicine," an address delivered before the Florida State Medical Association, informs us that during the earlier part of the decade of 1860–70, the chief sanitary officer of New York was an ignorant politician, and the sanitary inspectors were grog-shop keepers. One of these being asked, "What is hygiene?" answered, "A mist arising from the ground." Another recommended "burning coffee in the room" as the best preventive of smallpox.

THE NEW CINCINNATI BOARD OF HEALTH.—The Common Council has elected five saloon-keepers and one doctor, all "practical politicians," to take charge of the health of the city. The contempt for public opinion manifested by this action of the Common Council is something very remarkable, the more so when it is remembered that an epidemic of cholera is impending, and that Cincinnati is in no condition to meet it, its water supply being in special danger of contamination, its sewerage defective, and its soil in many places polluted by cesspool and privy soakage.

PHILADELPHIA SANITATION.—For some time past reports about the filthy condition of the streets of Philadelphia have been before the health authorities. At a meeting of the Board of Health, Chief Inspector Martin stated that the stench arising from fermenting vegetable matter in certain streets was equal to that of hog-pens in rural districts.

CINCINNATI BOARD OF HEALTH.—"The honorable City Council has elected a brand new Board of Health, an integral part of which is a doctor whose advertised specialty is the restoration of fractured virginity. Perhaps this is a step toward a reformation of the social evil. The doctor will cheerfully examine members of the City Council who may feel guilty of straying from the paths of virtue, and, after performing his original operation, certify to their condition of pristine purity."

GAINSVILLE, TEXAS, has adopted the Holly system of water works, and awarded a franchise to M. D. Mather and M. C. Orton. The capacity of the machinery, which is to be Gaskill compound condensing engines, will be 1,500,000 gallons daily, the length of mains and pipes four and one half miles, of diameters from four to twelve inches; the number of fire hydrants, forty-two, and they are to be completed January 1st proximo.

THE Paterson, N. J., Board of Health have passed a resolution asking the Board of Aldermen to have all the streets and gutters kept in as good and cleanly a condition as possible, and every other possible measure taken to make the city as safe as practicable against the possible ravages of cholera.

ST. LOUIS.—Press dispatches last week represented the water famine in St. Louis as more general than in any previous year. One third of the city is said to have only an intermittent supply; the works are not equal to the present demand. The mayor has issued a proclamation stopping street-sprinkling, the washing of sidewalks and the use of hand hose.

SANITATION IN EGYPT.—It is said that the European Volunteer Committee in Alexandria discovered that a canal supplying a crowded quarter of the city with drinking water communicated with a place in the native cemetery used for washing corpses.

MICHIGAN.—D. H. H. Baker's report for the week ending July 14th shows a wide prevalence throughout the State of bronchitis, malarial fevers, diarrhœa, and consumption. Diarrhœal diseases, diphtheria, and pneumonia have notably increased over last week. Diphtheria was reported present in 21 localities, scarlet fever in 13, and measles in 23.

MORTALITY IN THE UNITED STATES.—During the week ending July 21st, in 32 cities of the United States having an aggregate population of 6,979,500, there were reported 3816 deaths, which is equivalent to an annual death-rate of 27.4 per 1000.

In the North Atlantic cities the rate was 26.7; in the Eastern cities 30.6; in the lake cities 24.9; in the river cities 24.0, and in the Southern cities for the whites 26.4 and for the colored 36.4 per 1000. The infantile mortality continues high, 55.3 per cent of all deaths being in children under five years of age.

The low mortality in the English, Scotch and Irish cities as compared with our own is noteworthy.

REVIEWS.

SYPHILIS. By V. CORNIL, Professor in the Faculty of Medicine of Paris, and Physician to the Lourcine Hospital. Translated, with notes and additions, by J. HENRY C. SIMES, M.D., Demonstrator of Pathological Histology in the University of Pennslyvania, and Assistant-Surgeon to the Episcopal Hospital, Philadelphia; and J. WILLIAM WHITE, M.D., Lecturer on Venereal Diseases, and Demonstrator of Surgery in the University of Pennslyvania, and Surgeon to the Philadelphia Hospital. 8vo. pp. xvi., 461. Philadelphia: H. C. Lea's Son & Co. 1882.

One cannot examine this work, and notice its relative smallness of bulk when compared with that of the "notes and additions" of the American translators, without thinking of a woman's postscript to her letter, or of Eve's witty report of his great case, "A Woman Joined to a Tumor." However, in this case, as the postscript is as good as the letter, and the woman fully as valuable as the tumor, the "notes and additions" are not unacceptable to the purchaser of Cornil's original treatise. This is more particularly true when it is evident that the author either knows nothing of American syphilographers, or purposely repudiates them. Cornil, like most of the surgeons of the day, is a dualist. The American editors seem to hold the opposite opinion, though not decisively. The author is "and out-and-out" mercurialist. The editors do not give mercury or condemn its use until secondary symptoms have appeared.

The work is, of course, very superior and masterly, and the subjects are presented in both the treatise and the "additions" in the most excellent and potential manner. The reviews of controversial points are magisterial and eminently fair, and render the volume of itself a most valuable guide in the pathological and therapeutic studies of every syphilographist.

The illustrations are very fair, but the diagramatic drawings of syphilitic lesions cannot be said to add to the value of the volume. One notices, with great pleasure, an entire absence of those horrid and worthless chromo-lithographs which render hideous and repulsive most of the recent works on syphilis. Indeed, it cannot be imagined, by the average critic, what is the purpose of these colored lithographs; they are invariably inaccurate in anatomical configuration, in pathological coloring, and in the representation of histological lesions. They may be valuable for missionary moral work in inducing every one who sees them "to be a good boy" or take the consequences, but for scientific purposes they are not only worthless, but they are inaccurate, hideous and ridiculous.

This volume is issued with that care and neatness so characteristic of its publishers.

FISTULA, HÆMORRHOIDS, PAINFUL ULCER, STRICTURE, PROLAPSUS, AND OTHER DISEASES OF THE RECTUM: THEIR DIAGNOSIS AND TREATMENT. By WILLIAM ALLINGHAM, M.D., F.R.C.S., etc. Fourth revised and enlarged edition, with illustrations. Large 8vo. pp. viii., 168. Philadelphia: P. Blakiston, Son & Co.

There is no work before the public which is as frequently mentioned by journals as this one. The reasons for this are simple. The work achieved just and immediate popularity. The editions issued have been large and at short intervals. The field occupied has until recently been comparatively small, with few competent guides and laborers in it. The author's mind is of the practical cast, his style is very simple and lucid, and his experience as large as that of any one known to the profession. He gives particulars and details in regard to 1200 cases of fistula, and nearly 1000 cases of hæmorrhoids treated in his special hospital, and of other diseases in proportion. Adding to such an exhibit the records of the largest private or rather special practice, it is easy to understand why his work is so consulted and valued everywhere.

It is to be regretted that the author dismisses, almost contemptuously, the treatment of hæmorrhoids by carbolic acid—a treatment so justly popular in this country, and so surely and properly winning its way to professional confidence. Kelsey's work on this subject will convince the most skeptical.

The general line of treatment of the author is unchanged. He clings to old and well-established methods, and prefers his own to those of all others.

While one cannot censure, unreservedly, such absolute dogmatism and such absolute proscription of equals and rivals, it can be easily understood that unsurpassed success as an operator and great popularity as an author may induce overweening confidence in self, and an unjust disparagement of others. But however explained, these blemishes are none the less conspicuous and to be regretted.

The author is often unconsciously humorous, and the humor is none the less enjoyable because it is wholly unintended. For instance, the author states, very gravely, that "the anus requires as much washing as any other part of the body," as though there was some doubt upon this subject, and it was necessary that he should remove it. If he had said that the parts indicated required more "washing," it is not probable that his readers would have confided less in his good judgment and discrimination.

This edition is well issued.

A Guide to the Practical Examination of Urine. By James Tyson, M.D., Professor of General Pathology and Morbid Anatomy, University of Pennsylvania, etc., etc. Fourth Edition. Revised and corrected. Philadelphia: P. Blakiston, Son & Co. 1883.

It is not necessary to do more than call attention to the fact that a fourth edition of this work has been issued; it is one of the medical classics, and deserves to be so regarded. The chief changes manifest are in connection with the subjects—sugar and albumen. These subjects have been carefully reviewed and "brought up to date." In regard to Trommer's test, he makes the useful statement that, though not a quantitative test of reliability, it is sufficiently so for clinical purposes, as it faithfully and easily indicates any quantity of sugar of significant or grave import.

The work steadily improves with each edition, and bears evidence of careful and competent revision.

On Slight Ailments, their Nature and Treatment. By Lionel S. Beale, M.B., F.R.S., Professor of Medicine in King's College, London. Second edition, enlarged and illustrated. 8vo. pp. 283. Philadelphia: P. Blakiston, Son & Co.

This is another work too well known to need further notice. It gives to the reader a great deal of information in regard to comparative trifles not to be found in other volumes; condition of tongue, foul breath, indigestion, vertigo, constipation, etc. It has won a place in the physician's library and deserves all of its success.

DISEASES OF THE RECTUM AND ANUS. By CHARLES B. KELSEY, M.D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum, etc. New York: William Wood & Co. 1882. 8vo. pp. xii., 299. Illustrated.

With the deservedly popular work of Allingham before the profession, it required some confidence in author and publisher to issue this one. It is only just to say that it is carefully and systematically arranged, and prepared with great care, accuracy and fidelity The illustrations are good, and are liberally introduced. It is a good work, and those who have other works of the kind will find this one a real addition to their practical and useful library.

AIDS TO DIAGNOSIS—WHAT TO ASK. By J. MILNER FOTHERGILL, M.D., M.R.C.P. New York: G. P. Putnam's Sons. 1881. 12mo. pp. 66. Paper, 25 cents. (From publishers.)

Why this book was ever written, it is impossible to divine; but why it was ever published is a mystery inscrutable. To deliberately beget such an offspring was bad enough, but to clothe and adopt it, unless as a charitable act, is absolutely unintelligible. If any doctor does not, at the bedside, know "what to ask," the best information to give him would be advice to go to the plough or back to the alma mater which gave him birth; this and a pocket compass, to prevent his getting lost, would be most suitable to his needs.

ALCOHOLIC INEBRIETY, FROM A MEDICAL STANDPOINT, WITH CASES FROM CLINICAL RECORDS. By JOSEPH PARRISH, M.D. Philadelphia: P. Blakiston, Son & Co. 1883. 12mo. pp. 185. Cloth. Price, $1.25. (From publishers.)

While this book presents a large number of cases, carefully reported, it cannot be said that any new lesson, or even any new information, is imparted. That isolation, withdrawal from temptation, subjection to authority, careful diet, proper hours, and good habits will benefit many and cure some "inebriates" is too well-known for argument and illustration. Still, precept upon precept, Pelion upon Ossa, line upon line may do good; it cannot, at least, do any harm. The author's book is the result of manifest care and fidelity. It may do some missionary work that is good. As a scientific production, it does not require or justify further notice.

THE DISEASES OF THE PROSTATE, THEIR PATHOLOGY AND TREATMENT. By Sir HENRY THOMPSON. Fifth Edition. Philadelphia: P. Blakiston, Son & Co. 1883. Price, in paper, 75 cents; in cloth, $1.25.

As many will remember, the first edition of this work appeared in 1857, and as each edition has since appeared, the volume has been constantly increased in size and value. The present edition (the fifth) contains an entirely new chapter, describing the author's latest operations for the relief of advanced prostatic disease by incision of the prostatic urethra through the perineum. It is the best edition so far issued, and the new chapter mentioned adds much to its value. It is neatly issued.

Handbook of the Diagnosis and Treatment of Diseases of the Throat, Nose and Naso-Pharynx. By Carl Seiler, M.D. Second Edition. With 77 Illustrations. Philadelphia: 1883. Pp. 275. Henry C. Lea's Son & Co.

This is a very poor and incomplete manual. The arrangement is very bad, and there is an utter lack of careful method and system. The descriptive is inaccurately written; not only is the diction inelegant and often ungrammatical, but it does not convey the meaning of the author, unless his views of disease are worse and more imperfect than is his knowledge of orthography and syntax.

His therapeutic resources are most meagre, and he seems to think that nitrate of silver in 120 grs. to ℥ j is to cure everything in the category of disease, and where this is not used, he resorts, like so many others, to the use of chlorate of potash. The diseases of the naso-pharynx are not mentioned, though they are included in the title of the work.

The printers have done very well, and the illustrations are fair.

Untoward Effects of Drugs. By B. L. Lewin, M.D. Translated by S. Mulheron. Detroit, Mich.: George S. Davis. 1883. 8vo. $2.

This book certainly fills a hiatus in medical literature. There has long been a need of a work like it, which would deal *in extenso* with the unexpected results of remedies which are the effect of the idiosyncrasy of the patient. While the present work gathers together many widely scattered instances of the unexpected working of a well-tested remedy, still there are many omissions. The unexpected results from the use of iron are discussed in the first section. In the second section the effects of quinine are discussed. The cases of insanity produced by quinine, reported by Kiernan, and the researches of Hammond fail to receive recognition. This section contains much of value and interest. If hæmoptysis be due sometimes to quinine, as is claimed by several reliable observers, then care is necessary in the use of this remedy. While the subject of salicylic acid is pretty fully and fairly discussed, no account is given of the researches of Barbowes, Bogdanow, Diesterweg, Finlay and Lucas. The researches of Spitzka on strychnia are not cited. Konig and Smidt's researches on iodoform, Kane's researches on chloral, Bannister, Hammond, Seguin, Boettger and Hughes's researches on the bromides have not been discussed. Taking all the omissions into consideration, and remembering that much has been done since this book appeared, it must be confessed that Dr. Lewin has accomplished his task in a creditable manner. The translation is well done, but a number of germanisms are here and there visible. The work is well issued.

J. B. Lippincott & Co. announce that the third volume of Agnew's Surgery, which brings this great work to a close, will be ready on September 1st.

Note.—Notices of new books and monographs received will appear in next number.

PHARMACY AND THERAPEUTICS.

Jaccoud's Glycerine Mixture.—Prof. Jaccoud, of the Paris Faculty, recommends the following mixture of glycerine in cases where cod-liver oil is not well tolerated:

℞	Glycerinæ	ʒ x.
	Sp. vini gall. or rum	ʒ iij.
	Ol. menth. piperit	gtt. j.

M.

This quantity may be divided into two or three doses, and taken just after or between meals.

This mixture has an agreeable taste, is facile of digestion, and does not cause disgust, even after being used several months without intermission. Prof. Jaccoud has obtained mared benefikt from its use in several cases of phthisis.

ERGOTININE (TANRET'S).—Upon request of the Pharmacological Institute of Strassburg, Gehe & Company have made many attempts to prepare this alkaloid, to which the oxytoxic effects of ergot are ascribed, and have at last succeeded. It is a substance which is very readily decomposed, being quickly altered by alkaline reagents, or even by a moderately elevated temperature. It soon assumes a red-brown color. Dr. Kober, of Strassburg, writes to Gehe & Company in respect to it as follows:

"You can scarcely realize how you have delighted my pharmocological heart by your ergotinine, for its action is most extraordinarily strong, and such as I never have attained in my own experiments. Frogs are placed by one-twentieth milligramme into a deep toxic condition, which is remarkable by its close resemblance to that produced by veratrine, inasmuch as the muscles—although promptly contracting—require from four to six hours for again relaxing. This peculiar condition lasts many days. A few milligrammes administered to Guinea pigs produce a condition resembling strychnine poisoning, inasmuch as they exhibit convulsive twitchings of the legs and dyspnœa, and finally die from paralysis. The intoxication may be very nicely studied in rabbits, which are affected already by injections of one-tenth milligramme into the circulation. At first the cardiac plexus is excited, then follows a stage in which the blood pressure is increased. This discovery is of the *greatest importance*, since it has been suspected, for the last twenty years, that ergot increases the blood pressure and thereby acts upon the uterus. Larger doses diminish the blood pressure in rabbits permanently, produce cramps lasting for hours, and cause death by asphyxia. It is remarkable that the alkaloid has no effect upon chickens, although the latter are very easily affected by ergot, and may be killed by feeding three times with ten grammes of the crude drug."

The hypodermic dose of the substance is ten to twenty drops of a solution containing one milligramme in one cubic centimeter.

This preparation, says *New Remedies*, is the *most expensive* drug so far quoted, since at lowest rate it must be put at 200 marks (50 dollars) per gramme (or 3⅓ dollars per grain, over $1300 per ounce). Yet even this price is seven and one-half times *lower* than that charged by the French manufacturer, namely, 1.50 marks (36 cents) for one milligramme in solution.

M. PASTEUR ON WINE.—The remarkable researches of Pasteur upon alcoholic ferments have a great influence upon the improvement of brewing of beer, and they promise, it would seem, to have a no less valuable result in the making of wine. The *Pharmaceutical Journal* mentions, that it "seems quite probable that the quality of the wine of any year is as much affected by the particular mould which predominates during the fermentation, as by the amount of sunshine or rain during the growth of the grapes, or even the passage of a comet through the sky. In Germany, it is already the practice to sterilize the must and then to sow it with some selected ferment, a process favorable to the elimination of various 'false' ferments (species of *Dematiei*) that are common to the surface of the grape and other fruit, while the custom in some southern countries of decanting the must as soon as the first foaming appears may have the same effect. In a recent communication (*Comptes Rendus*, tome xcvi., p. 1369) M. Le Bel incidentally remarks, that last year none of the grape-collection with which he had to do underwent fermentation influenced by what Pasteur considers to be the true wine ferment, *Saccharomyces ellipsoides*, Rees, but was all fermented by *S. pastorianus*. M. Le Bel also states that a natural must yields a larger proportion of the higher alcohols than a solution of sugar fermented with the same ferment. This observation has an important bearing upon the keeping of the 'wines' now largely manufactured from sugar solution in which grape-skins have been steeped."

Cotton Seed Oil.—At the Cotton Seed Crushers' Convention held in Chicago, June 26th, 27th, and 28th, the president stated that there were 85 cotton seed mills in operation in this country, crushing, the last season, 554,600 tons of seed, and there were exported an average of nearly 13,000 barrels of oil yearly, each barrel having a capacity of forty-five gallons. On acount of the complaints of olive-oil makers in Spain, the Spanish Government had imposed a duty that renders the shipment of cotton seed oil to that country unprofitable. In this country cotton seed oil is largely used for cooking purposes, taking the place of lard. It is known as "olive butter," although no attempt at concealing its actual character is made. At the convention a physician and chemist of Chicago exhibited specimens of cotton seed oil which had been deprived of its natural gluten and paraffine, and was equal to the best lubricating oil, having been tested on sewing machines and on watches. The commercial, domestic, and manufacturing value of cotton seed is rapidly increasing. In 1876 there were only 24 crushing mills running in this country; now there are 85, and next season there are to be 110, even if the number of those now projected should not be increased.

Baldness.—In an article recently contributed to the *Gesundheit*—a paper, as its name imports, devoted to sanitary subjects—Professor Reclam, a German *Gelehrter*, makes some timely and useful observations on the subject of baldness. After describing, in a vein of pleasantry, the vast array of bare polls which may be seen any evening in the pit of a theatre or the body of a lecture-room, he discusses the causes of baldness. He does not think, as is sometimes said, that loss of hair is the result either of impaired health or of much study. The strongest men are often bare-headed, and German Professors, who are nothing if not studious, are distinguished above all men by the profusion of their locks. On the other hand, soldiers and postilions, who wear heavy helmets and leather caps, and wear them a good deal, are frequently as bald as billiard balls. From these facts Herr Reclam draws the conclusion that baldness comes chiefly of the artificial determination of blood to the head, and to the heat and perspiration thence arising. The result is a relaxed condition of the scalp and loss of hair. If the skin of the head be kept in a healthy state, contends the professor, the hair will not fall off. To keep it healthy, the head-covering should be light and porous, the head kept clean by washings with water, and the hair cut short. The nostrums vended as hair restorers, and on which a fabulous amount of money is wasted by the ignorant for the benefit of quacks, he denounced as worse than useless. In ninety-nine cases out of a hundred they are worse than useless. Cleanliness and cold water are the sole trustworthy specifics; but when once the hair roots are destroyed, not all the oil of Macassar, the bear's grease of Siberia, not the cantharides of Spain will woo back the vanished locks.

Action of Drugs on Secretion of Milk.—We are already acquainted with the fact that a certain number of medicines when ingested by the ordinary channel were, in part, eliminated by the secretion of milk, but we do not possess precise information concerning the influence of the medicaments on the quantity and quality of the secretion. Observations recently made by M. Strumpf on the milk of goats as well as on the secretion in the human female during lactation have in a measure supplied this want. Iodide of potassium was found to lead to a marked fall in the quantity of the fluid secreted, the proportion of proteid and saccharine principles was increased, while the proportion of fat was diminished. The quantity of iodide secreted was very small, so that the notion that iodide of potassium can be administered to children by way of their nurse is not sustained. Alcohol increased the richness of milk in fats, while the proportion of albuminoids and carbohydrates was not modified. Unaltered alcohol was not detected in the milk. Neither alcohol, morphia, nor the preparations of lead had any influence on the quantity of the secretion. Salicylic acid seemed to excite secretion a little; pilocarpine exercised no effect in this direction. The richness of the milk in sugar was increased by salicylic acid, which passes out of the milk secretion in greater quantities in the human female than in the herbivora. Traces of lead were also recognizable in the milk of those subjects who were ingesting the preparations of lead.

The Hypodermic Use of Sulphate of Morphine.—Dr. William H. Coggehall, in the *Virginia Medical Monthly* of June, 1883, gives a very thorough, useful and practical discussion of the subject. He gives:

1st. The choice of the instrument, preferring the glass-barrelled syringe, covered with a fenestrated white metal incasement.

2d. Care to examine the point of the needle before using, to see that the steel or aluminum is firmly attached, it has become pulled off and left in the cellular tissues in, at least, one instance.

3d. The proper cleansing of the instrument after use, as tetanus has been induced by a rusty injecting needle. He refers to the use of carbolized oil, which can be kept in a small vial in the instrument case.

4th. Mode of preparing the injection. The prepared tablets are recommended. They are apt to become hard with age, and difficult to dissolve, but the careful warming of the solution in a silver spoon over a lamp, gas jet, or even a lighted match, will remedy this.

5th. By Magendie's solution, which can be kept good for months by the addition of one grain of carbolic acid, or two drops of pure carbolic acid to the ounce of solution. Vidal recommends the addition of twice as much chloral by weight as there is morphia, and claims that this mixture prevents the growth of confirvæ and increases the power of quieting pain.

6th. The dose he gives is from one-eighth to one-third of a grain, and considers one-eighth quite large enough for an initial dose, save in exceptional cases.

7th. The combination of morphia with atropia, one grain of atropia sulphate to one ounce of Magendie, increases the hypnotic effect, prolongs and augments the power of quieting pain, diminishes the constipating effect, and diminishes the gastric disturbance and nervous prostration, but both do produce dysuria.

8th. That the use of the injection as near the seat of pain as possible, hastens the immediate effect is considered probable, but that it is due more to the influence of the food acting upon the part than to the alkaloid; that before the local sedative caused by the presence of the fluid wears off, the general effect of the morphia is felt and thus the impression is kept up.

9th. Is there any difference as to the locality where the injection is applied in hastening the general absorption? He cites Kane to the effect that "absorption from the groin and inner side of the arm rank first in point of rapidity; fore-arm next, and the thick tissues of the back last."

10th. The relative innocuousness of deep and shallow injections. The only care necessary to secure its effects is to make it *subcutaneous.* If in the skin itself phlegmasiæ are sure to follow. There are cases who cannot receive an injection into the cellular tissue without its being followed by an abscess.

11th. The necessity in some cases of producing local anæsthesia by the use of the ether spray, or of ice and salt.

12th. The relief of the urticaria, which sometimes follows injections, by fomentations of warm water and vinegar. The administration of potassium bromide just before the injection has sometimes prevented this annoying symptom.

To Prevent the Hair Falling Off.—The *Linimentum Crinale* is one of the best preparations for this purpose. Its formula is, cantharidine, one grain; acetic ether, one-fourth ounce. Dissolve, and add rectified spirit, three ounces; castor oil, one ounce; oil of lavender, fifteen minims. Some prescribers order the addition of more spirit. The application to be made with a small sponge every third day. After applying it a few times the head should be washed, or the application may accumulate and cause too much irritation.—*Science News.*

Neuralgia.—Prof. R. Bartholow recommends as a rapid local anodyne in neuralgia, equal parts of chloroform, camphor, and chloral hydrate.

"St. Jacob's Oil," according to Squibb's *Ephemeris*, appears to be a feeble and badly prepared aconite liniment, and it consists mainly of water, ether, alcohol, turpentine, and a small proportion of aconite with red coloring matter.—*Boston Jour. of Chem.*

Scott's Emulsion of Cod-Liver Oil.—This is a preparation of cod-liver oil emulsified with glycerine. From the formula printed on the label, it contains fifty per cent of pure Norwegian cod-liver oil, with six grains of hypophosphite of lime and three grains of hypoposphite of soda to the fluid ounce. It is palatable; and many patients who have a repugnance to ordinary cod-liver oil, take it without difficulty.

Carnrick's Beef Peptonoids.—The beef peptonoids introduced by the Maltine Company have of late been largely used in cases of extreme debility of the digestive organs. A four-ounce packet is equal in nutritive value to ten pounds of any extract of beef prepared according to Liebig's formula. They are said to be the most concentrated nutritive ever invented. They may be added to soups or other liquid food, or from one to two dessert-spoonfuls may be dissolved in six ounces of warm water, and used as an enema.

Capsicum in Opium Poisoning.—Dr. J. G. Kiernan, *American Med. Weekly*, cites several cases of opium poisoning in which Ti. of Capsicum, ʒ i, ad. ʒ iij, were given *per rectum* with rapid and favorable results after ordinary remedies had failed. It may be given in strong coffee. If the pepper be too concentrated, local inflammation may be induced.

Condensed Skim Milk as a New Food.—According to the *Chemiker Zeitung*, M. Muller has evaporated skimmed milk in a vacuum, so as to obtain a permanent product, which can be preserved for many months in a dry atmosphere, and which has valuable alimentary properties. He thinks that it may be of great use in pastry and in various kinds of baking, and the best sugar of milk can be made from it. The skimmed milk which is collected in dairies and cheese factories is usually given to animals or wasted in sewage; it contains, however, large quantities of salts and particles of butter and caseine, which can be utilized by Muller's method.—*Rev. Scientif.*

Infusion of jequirity or licorice bean in inveterate pannus, with an account of several successful cases, is reported (*Medical Record*) by Edward S. Peck, M.D.

Dr. Gibb recommends the use of bromide of ammonium to those who suffer from obesity. When taken in small doses it will absorb fat, and diminish the weight of the body with greater certainty than any other known remedy.

Mucilage.—Take a quarter of a pound of gum arabic, dissolve it in one pint of boiling water; add a piece of borax as large as a walnut; when thoroughly mingled with the water—which can be done by frequent stirrings—bottle in a large-mouthed bottle; through the cork pass a hen's feather, and you will have a pint of mucilage as good as the best; shake the bottle occasionally for three or four days after it is corked. If the weather is hot, a tablespoonful of alcohol will prevent all mould.

To Keep Instruments from Rusting.—Professor Olmstead, of Yale College, recommends the following mixture as efficacious to preserve to knife blades their bright metallic surface: Melt slowly together six to eight parts of lard with one of resin and stir until the mixture is cold. If it is deemed desirable to thin it, this may be done by the addition of coal oil or benzine. It should be applied to the perfectly clean surface, as it will not stop oxidation once begun.

Gonorrhœa in the First Stage.—R. C. McCann, Benton, Miss. (*Druggist*, July, 1883), has had good results from the following:

℞	Ol. Santal. Flav.	ʒ ii.
	Liq. Potass	ʒ ii.
	Sacch. Alb	āā ʒ iii.
	Gum Acaciæ	
	Aquæ Cinna	℥ vi.

M. ft. sol. Sig.: Teaspoonful ter in die.

℞	Plumbi Acet	āā gr. viii.
	Zinci Sulph	
	Morph. Sulph	gr. i.
	Aquæ Rosæ	℥ viii.

M. ft. sol. Sig.: Inject ter in die.

ORIGINAL CORRESPONDENCE.

WHEELING, VA., July 13, 1883.

MY DEAR DR. GAILLARD: Herewith I hand you slips containing report of the proceedings of the meeting of the State Board of Health at Martinsburg, last Wednesday, and the very latest concerning "Dr. Hale."

Let me invite your particular attention to the action of the Board respecting "The American Medical College" (*eclectic*), St. Louis, Mo., also to the fact that but *one* in *four* of the applicants for medical certificate passed muster. Will not the example furnished by West Virginia in dealing with such scoundrels as "Dr. Hale" encourage legislation in those States that have not yet taken the advanced step to protect their citizens against such dangerous frauds? What if the medical profession in the great State of New York were to bestir itself as actively to *stamp out* medical quacks, such as the notorious Hale, as it has done to render popular and maintain the so-called *New Code!* Just think of it, that such a villainous fraud as Hale should boast of his medical registration in New York and have been permitted to establish his headquarters on Broadway! Faithfully yours, * * *

NEW YORK, August 16, 1883.

ADAPTATION OF DAVIDSON'S SYRINGE TO ASPIRATION.

DEAR DOCTOR: In the number of your journal for July, a correspondent in St. John, New Brunswick, Canada, describes the adaptation of the Davidson, or, as it is called in England, the Higinson Syringe, to Aspiration, as if the idea were original. This adaptation was proposed and employed by me twenty years ago. It is mentioned in the first edition of my work on the "Practice of Medicine" (1866), and in each subsequent edition; also in my work on "Clinical Medicine," and in other publications. The adaptation was made by Tiemann & Co., at my suggestion. An increased thickness of the walls of the central bulb was suggested by me. This simple aspirating instrument has been used by myself and others in hospital and in private practice in a large number of cases. It answers all the practical purposes of Dieulafoy's aspirator and the adaptation of the stomach pump by Bowditch. Its advantages are its cheapness, its portability, its durability, and its being always in order for immediate use. Yours truly, AUSTIN FLINT.

AUGUSTA, GA., August 16, 1883.

E. S. GAILLARD, M.D.—*Dear Doctor:* In the July number of your valuable journal, in report of proceedings of Neurolgical Society, reference is made to Dr. Morton's "Thimble-Penholder" as an improvement on and a substitute for Prof. Nussbaum's apparatus for writer's cramp. If we knew more of the pathology of this singular affection, which is at present beyond successful treatment, the profession would be less dependent upon mechanical devices.

The editor of the *Therapeutic Gazette* seems not to have heard anything from his correspondents concerning the use of solvents, possessing also disinfecting properties, in the treatment of diphtheria. Until my experience becomes less favorable than it has hitherto been with this class of articles, I will adhere to them. I have been quite fortunate—so much so, that I have almost come to the conclusion that it is more manageable than it is ordinarily assumed to be. Dr. Jacobi, in a treatise on diphtheria published some years ago, impressed me with this statement. Yours very respectfully, Wm. H. Doughty.

Davis, La., August 11, 1883.

Dr. E. S. Gaillard—*Dear Doctor:* Send on the journal. It is a dear old friend to me. I could not do without it. In my estimation it is "brief" enough. I have seen several copies of "the most successful medical journal in the world."

We have been sorely afflicted lately by an epidemic of dysentery, which was unusually fatal, and presented many unusual and interesting cases. When I can find leisure I will write them up for you.

I have lately seen a strange case for the Temperate Zone—so strange, indeed, that I am almost afraid to mention it; a genuine case of "dracunculus." The worm occurred in an old lady about fifty years of age, who had never been out of the United States. When extracted, the worm measured near twelve inches, and was near the size of No. 8 spool cotton. It was unfortunately destroyed by the patient when she succeeded in extracting it. It was seen, however, by several intelligent people.

I saw case several times before the worm was taken out, and feel confident that it was nothing more nor less than a genuine "dracunculus." Shall I publish the case?* Yours truly, Wm. V. Taylor, Jr.

MISCELLANEOUS.

Buffalo Lithia Water (*Buffalo Lithia Springs, Va.*).—Dr. G. Halstead Boyland, Baltimore, Md., resident physician, says: "The case of Mr. C——, of North Carolina, who arrived at the Springs June 21st, affords undoubted evidence that 'Buffalo Lithia Water,' Spring No. 2, is a solvent for some urinary deposits commonly called 'stone in the bladder.' About a year previous he was operated upon for stone, the operation affording but partial and temporary relief. He complained of pain in the lumbar region, and pain and irritability of the neck of the bladder. He was emaciated; suffering greatly from insomnia; and his general condition very unfavorable. Upon arrival at the Springs he was passing small quantities of a urinary deposit of the triple phosphate of ammonia and magnesia variety. Large flakes of bloody mucus were found in the urine. For the relief of present suffering he was making frequent and free use of opiates. He was put upon the water of Spring No. 2—from six to eight glasses a day. In a few weeks the solvent properties of the water were evident in the diminished consistency of the deposit, the increased quantity discharged, and by its change from concrete lumps to fine sand, which he discharged to the amount of four ounces. The quantity, however, diminished, until, after a stay of six weeks at the Springs, he has returned home with the deposit dissolved and washed out of the system, and the diathesis *fons et origo morbi* altered. There has been a disappearance of the attending distressing symptoms described, and great improvement in his general condition." Thos. F. Goode, Proprietor,
Buffalo Lithia Springs, Va.

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* By all means.—Ed.

CONTAGION OF PHTHISIS.—At the International Congress of Hygiene of Geneva, Professor Corradi proposed the following conclusions:

1. The belief in the contagion of phthisis dates from the most remote antiquity, and held its ground not only in the opinion of the vulgar, but as a scientific doctrine.

2. In the second half of the last century this belief reached its apogee, probably because the disease assumed a frequency unknown in the past. In most places, the State was obliged to intervene and take measures, in the interest of the public health, with the hope of impeding the diffusion of the contagion.

3. In the first half of our century, on the contrary, the doctrine of contagion lost ground; anatomy and pathology being in the ascendant, etiology suffered.

4. In the last few years only has experimental pathology again taken up the question, endeavoring to give to the doctrine of contagion the support of experiments on the inoculation of tubercle. Further, it is believed possible to demonstrate that the poison is represented by a bacillus.

5. The problem so clearly put by experiment must be solved by clinical observation. To pathology it belongs to reconcile this doctrine with the fact of predisposition and heredity.

6. But if contagion and transmission be possible, the conditions yet remain to be determined.

7. Meanwhile, hygiene must comport itself in regard to phthisis as it would be with a suspected malady—that is, one capable of being communicated or transmitted under certain circumstances.

8. Especially must it consider the conditions of cohabitation. If cohabitation be less constant and intimate there will be less risk run, and the exhalations of the sick, which apart from any specific action, undermine the health and predispose to phthisis, will be avoided.

9. Although it is not certain that tuberculosis can be communicated in articles of food, it is nevertheless prudent to avoid the flesh and milk of phthisical animals.

10. It is necessary to exercise great care in the choice of vaccine lymph, whether from the calf or humanized.

11. The institution of special hospitals, or at least of special wards, is strongly to be recommended.

12. The results of new studies and researches, undertaken with the scope of determining the conditions and means of transmission of tuberculosis, will indicate the more special prophylactic measures it will be necessary to take.

13. Whatever opinion is professed as to the nature of phthisis pulmonalis, no one doubts the great advantage the resistance of the organism has in the struggle; and therefore one of the greatest obstacles to the diffusion of this scourge of civilization is to be expected from the practice of hygiene, which assures the moral and physical well-being of the population.—*London Medical Record.*

POST-HEMIPLEGIC DISORDERS OF MOVEMENT.—A valuable communication on the above subject by M. Demange will be found in the May number of the *Révue de Médicine;* it is based on study of eleven cases, of which nine proved fatal. In each of these an autopsy was made, and a drawing is given of the morbid appearance found in the brain. The cases are all very well reported except in one particular, and that is, that from first to last there is no mention of the ophthalmoscopic appearances in any of the patients. In this respect, however, M. Demange does not differ from his compatriots, for we may say, without fear of contradiction, that it it is quite exceptional to find any note as to the state of the optic disk in the cases published in the various French journals. Notwithstanding this omission, however, the paper constitutes a distinct advance in our knowledge of the different varieties of post-hemiplegic movement. These movements, according to the author, may be divided into two groups—in one they supervene spontaneously, apart from voluntary movements (of this kind are hemi-chorea, hemi-athetosis, and hemi-paralysis agitans) ; in the other groups the movements are produced only during the performance of voluntary acts (of this kind are hemi-ataxy and hemi-tremor of the type of disseminated sclerosis). Those movements may coincide in the same patient, or they may succeed one another. In all the patients, of course, there was hemiplegia, and in all there was hemi-anæsthesia. As regards the lesions found, in one it was almost confined to the posterior segment of the internal capsule (case of hemi-chorea) ; in six cases the lenticular nuclei were affected (in some of these the internal capsules were also involved, in others the optic thalami—one case of hemi-paralysis agitans, four cases of hemi-athetosis, and one of hemi-sclerosis disseminata) ; twice the lesion was cortical and subcortical, at the region of the motor convolutions, the central ganglia being quite normal (one case of hemi-athetosis and one of hemi-ataxia). No special seat, then, can be assigned to the lesion, judging from the form of the trembling. The anatomical condition which gives rise to the production of the trembling would appear to be the irritation of the motor fibres at any point of their course, whether in the internal capsule, the lenticular nucleus, optic thalamus, or motor convolutions, and the form of the trembling would, in the author's opinion, be dependent, not upon the seat of the cerebral lesion, but upon the state of the muscles of the paralyzed side—muscles whose tone and contractility vary according to the patient, the duration of the hemiplegia, and the state of descending degeneration of the pyramidal fibres. The author sums up the conditions necessary for the production of these movements as follows: 1. The hemiplegia must not be flaccid and complete. 2. The secondary contraction must not have given rise to an absolute rigidity. The paper concludes with some remarks on bilateral hemiplegia due to symmetrical cerebral lesions.—*Medical Times and Gazette.*

Electricity and Intermittent Fevers.—The treatment of intermittent fever by electricity in the Medical Clinic of Genoa, directed by Professor de Renzi, has given very good results (*Annali Univ. di Med.*). Electricity was first tried in the treatment of intermittents by Frank and Borsieri, afterward by Aldini, Cavallo, and Puccinotti, and lately, after having been neglected for a long time, by Bossi, of Rome, Sini, of Leghorn, and by Shipulski, Deparquet, etc. In De Renzi's hands it gave immediate and decisive results. He says that in the majority of cases intermittent fever can be cut short more promptly than by quinine. In nine cases he had five complete cures, one marked improvement one slight, and two unsuccessful cases. He uses the constant and the faradic currents ; the constant applied for five to fifteen minutes in ascending direction along the spinal column, the rheophores being placed over the two extremities of the medulla ; the faradic of medium intensity for half an hour, the patient holding a rheophore in each hand. The faradic was more efficacious than the constant current. The new studies of De Renzi have confirmed the possibility of overcoming intermittent fever by this method, but do not solve the following questions: Why is a rapid and complete cure sometimes obtained, while sometimes it is incomplete? What is the best method of applying electricity? When ought it to be preferred to the preparations of cinchona?—*London Medical Record.*

INSTRUMENT FOR REMOVING FOREIGN BODIES FROM THE EAR.—Dr. Louis B. Couch, of Nyack, N. Y., sends to the *Medical Record* the description of a little instrument which any jeweller can make, and which, he says, is very useful and efficient in removing foreign bodies from the ear. The description is as follows: "I have been interested in the late discussion going on in your journal with reference to the best methods for the removal of foreign bodies, such as corn, beans, etc., from the auditory canal or nares, and herewith transmit my mite to the general fund of information. Take a piece of eight-sided brass wire, or round wire with roughened surface, and drill into either end a small hole a quarter of an inch deep. Into one end bronze or solder a small twist drill one thirty-second of an inch in diameter, and into the other a nice sharply cut screw (such screws may be obtained of any jeweller) of about one twenty-fifth of an inch in diameter. When this is done, you are ready for your smart boy with more beans in his head than brains. Suppose the bean is at the bottom of the auditory canal, enlarged and surrounded by inflamed swollen tissues, a small portion only being visible. Introduce the speculum, and carefully with light pressure drill into the presenting portion of the corn or bean to the depth of about one quarter of an inch, and clear off all dust; then reverse the instrument and insert the screw, and the bean must come. I have by actual test inserted my sample instrument into a bean, and sustained with it a weight of twenty-five pounds, as shown by scales; a holding power far in excess of that required for the removal of any such bodies. Physicians will be surprised at the rapidity with which the drill will perforate the hardest of dry beans, and the slight pressure required. Care, however, should be exercised in first entering the drill, that it does not slip."

REJECTED MEDICAL COLLEGES.—The following medical colleges are not recognized by the Illinois Board of Health:

American Eclectic Medical College, Cincinnati, O.
American Health College, Cincinnati, O.
American University, Philadelphia, Pa.
College of Physicians and Surgeons, Buffalo, N. Y.
College of Physicians and Surgeons, Joplin, Mo.
Edinburg University, Chicago, St. Louis, and elsewhere.
Hygeo-Therapeutic College, Bergen Heights, N. J.
Eclectic Medical College of Pennsylvania (late issues).
Joplin Medical College, Joplin, Mo.
Livingston University, Haddenfield, N. J.
New England University of Arts and Science, Boston, Mass., and Manchester, N. H.
Northwestern Medical College, St. Joseph, Mo.
Penn. Medical University, Philadelphia, Pa.
Philadelphia University of Med. and Surg., Philadelphia, Pa.
Physio-Eclectic Medical College, Cincinnati, O.
Physio-Medical College, Cincinnati, O. (late issues).
St. Louis Eclectic Medical College, St. Louis, Mo.
St. Louis Homœopathic Med. Col., St. Louis, Mo.
Note.—It has had Columbus Medical College under consideration.

Surviving a Terrible Wound.—We have heard much lately about Justice Haight, of Pennsylvania, living many days after a bullet had been fired into his brain. A more peculiar case is now a resident of this county. George Sinsel, of Newfane, was a private in the Eighth New York Heavy Artillery. At the charge on the rebel works at Petersburg on the 16th day of June, 1864, a minie-ball struck him in the head, breaking the skull. The ball divided, part going outside and part going under the skull. For three days he lay on the field and was reported dead. After this time he wandered into a hospital and was treated, the physicians taking out a number of bones from his head. He was then sent to St. Mary's Hospital, Rochester. While there he was under the care of Dr. Moore, and on the 23d day of October following Dr. Bradley, the assistant surgeon, took from the unhealed wound a piece of rebel lead, which had lain there over four months. Now, Mr. Sinsel is as well apparently as ever, though he has a depression in his skull large enough to hide a walnut, and over which there is no skull-bone. This case was a wonder to the surgeons at the time it occurred, and a greater wonder to the man himself that he should be alive.—*From the Lockport Journal*, March 26th.

MEDICAL NEWS.

Filippo Pacini.—If any one had been asked six weeks ago who were Italy's most distinguished representatives in literature, scholarship, art, and science, he would have mentioned the names of Atto Vannucci, Antonio Mirabelli, Emilio de Fabris, and Filippo Pacini, and now, within a few days of each other, these four men—the quadrilateral, so to speak, of contemporary Italian genius—are dead.

Can we live without the spleen? The *St. Petersburg Medical Journal* contains a report from Professor Schuethauer, of Pesth, of a post-mortem examination upon a woman aged seventy, where no spleen was found. The organ had never been present.

Dr. L. S. McMurtry has retired from the *Louisville Medical News*, and is succeeded by Dr. H. A. Cottell, formerly an editor of that journal.

It is said that the authorities at St. Petersburg propose to extend the official supervision of contagious diseases to all complaints and ailments of the digestive organs. An English newspaper suggests that we shall hear soon of conspiracies against the Russian stomach, or of the arrest of students on a charge of collective dyspepsia.

Dr. John A. Octerlony has been recently elected Professor of Obstetrics and Diseases of Women and Children in the University of Louisville, in place of Dr. Theophilus Parvin, recently elected to the Chair of Midwifery in Jefferson Medical College.

Increase of Beer-Drinking.—Some statistics, just published, show that in 1870 the quantity of malt liquors, chiefly lager beer, produced in the United States, was valued at $55,000,000, while in 1880 the value reached the sum of $101,000,000. During the same period the increase in the production of distilled liquors was comparatively small, the value of the product being $36,000,000 in 1870, and $41,000,000 in 1880. The figures quoted show that whiskey-drinking is giving way to the drinking of light beer—a fact which should be welcomed by the friends of temperance.

THE RESIGNATION OF DR. DALTON.—Dr. John C. Dalton, the well-known physiologist, has resigned his position as Professor of Physiology at the College of Physicians and Surgeons which he held for so many years. He will be succeeded by Dr. John G. Curtis, who, for several years past, has been the adjunct professor.

A COMPLETE MEDICAL COLLEGE SOLD FOR FIFTY DOLLARS.—The *Fort Wayne Journal of Medical Sciences*, for July, chronicles the sale of the Medical College of Fort Wayne, Ind. It seems that a judgment was obtained against the college by the janitor and a printing house. To satisfy this the constable sold all the furniture and all the illustrations in the entire establishment. The amount obtained was little more than fifty dollars.

DR. STANLEY, in the *Louisville Medical News*, reports the case of a grandmother at the age of twenty-nine.

GOLD MEDAL TO DR. BROWN-SÉQUARD.—The Royal College of Physicians has awarded the gold medal, founded in memory of the late Dr. Baly, as a mark of distinction in physiology, to Dr. Brown-Séquard.

THE PARASITIC NATURE OF MALARIA.—For some years past M. Laveran has been at work on the subject of malaria. He believes that he has discovered parasitic elements which are no other than the essential causes of these maladies. Three forms of pigmented bodies of minute size are described. We must refer those who desire the particulars of these micro-organisms to the original description in the *Union Médicale* for June 10th and 14th. Suffice it to say that they are not confounded by their author with any natural factor of the blood. Indeed, examinations directed to the blood taken from the finger of individuals not suffering from ague failed to reveal their presence in any case. The evidence of the causal relationship of these minute organisms to the malarial diseases does not rest on any other observation than that of their invariable association. Some blood containing the pigmented elements was injected into the veins of some rabbits, but with entirely negative results.—*Lancet.*

THOMAS A. SCOTT, M.D., died July 11th, 1883, at Petersburg, Va., aged eighty. He was one of the most eminent practitioners in Virginia, and a nephew of General Winfield Scott.

DEATHS FROM STARVATION.—A Parliamentary return shows that fifty-eight deaths "from starvation," or accelerated by privation, occurred in Middlesex, England, in 1882. This is a startling disclosure. Death from either of these causes, not merely at our doors but in our very midst, argues a state of matters which is not less humiliating than painful. The remedy is obvious—more carefulness to search out cases of *real* want. It is not on the surface of the begging community these cases are found, but deep down in the population. Real want shrinks from notice.—*Lancet.*

A DOCTORS' DUEL—Washington, August 8th.—The Alexandria *Gazette* publishes an account of a duel fought near Leesburg between Drs. McGill, of that town, and West, of Goresville, in which, however, neither was hit. There had been bad feeling between the two for some time, which grew out of a clash in their professional interests, and the difficulty culminated in a meeting on Harrison's Island, in the Potomac, about three miles from Leesburg. The weapons used were pistols, and after the first fire, which was harmless, a reconciliation was effected, and the doctors, who are first cousins, again became friends.

THE ANTIQUITY OF MAN.—An interesting discovery, of much importance for geological and archæological science, has recently been made in a coal mine at Bully-Grenay, in the French department of Pas-de-Calais. A new gallery was being pierced, when a cavern was broken into, which discovered the fossil remains of five human beings in a fair state of preservation—a man, two women, and two children composed the group. The man measured about seven feet, the women six feet six and six feet, the children four feet and rather less than this. In addition, some fragments of arms and utensils of petrified wood and of stone, with numerous remains of mammals and fish, were brought to light. A second subterranean chamber enclosed the remains of eleven human bodies of large size, several animals, and a large number of various objects, with some precious stones. The walls of the cave exhibited drawings representing men fighting with gigantic animals. Owing to the presence of carbonic anhydride a third and larger chamber, which appeared to be empty, was not searched. Five of the petrified human remains will be exhibited at the mayoralty of Lens. The remainder of the bodies which have been brought to the surface are to be conveyed to Lille, there to await a thorough examination by the experts of the Faculté des Sciences. Information has been telegraphed to the representatives of the Académie des Sciences of Paris and to those of the British Museum. If the discovery be a real one, no doubt can be entertained of the value of the find, which would on the face of it seem to show that prehistoric man is anything but a myth.

PREGNANCY IN ADVANCED AGE.—A negress aged 121, residing in Georgia, has given birth to several children after she had passed her one hundredth year. The case seems well authenticated.—*Tex. Med. and Surg. Journal.*

DR. L. WEBSTER FOX, of Philadelphia, is reported to have successfully operated upon a colored woman, aged sixty years, who had been blind since birth from cataract. This is believed to be the oldest congenital cataract ever removed and the power of sight restored.

DR. CALVIN ELLIS has resigned the position of Dean of the Harvard Medical School, and Dr. H. P. Bowditch has been elected his successor.

DR. FORWOOD reports in the *Medical and Surgical Reporter* the fact that in the canning establishments of Hartford County, Md., large numbers of the employés suffer from intractable disease of the septum nasi. The immediate cause of this seems to be the irritation from the fumes of muriatic acid used in the soldering.

RABIES AND ITS PARASITE.—The mode of inoculation adopted by M. Paul Gibier consisted in drilling a small orifice through the median line in the frontal region of the skull of dogs, mice, and rats. This hole sufficed for the introduction of a needle, through which the virus could be syringed into the arachnoid cavity. From his experiments, M. Gibier supported the view that rabies can be transmitted to the fœtus from the mother (rabbits). Cold was found to be an effectual attenuant of many viri, including that of rabies. Microparasitic organisms were detected in the cerebrospinal fluid, as well as in the cerebral substance, notably the medulla oblongata. These consist of minute mobile granules, often arranged two by two and joined by a delicate filament. Sometimes a single granule was seen alone, and possessing a thin cilium ; these were no doubt due to rupture of the bilateral figure, and resembled a nail in shape. The size of these elements, which could not be discovered in healthy animals placed under similar conditions, was about one-twentieth of that of a red blood-disk.

At a recent meeting of the Society of Physicians of Vienna, Dr. Felix Schwarz exhibited a man, the subject of wandering liver. Needless to say, the case excited great interest.

Paul DeLacy Baker, M.D., died at his residence in Eufaula, Ala., July 6th, 1883, aged fifty-five. He had practised in the same place for over a quarter of a century, and was greatly beloved by the whole country.

Professor Huxley at Cambridge.—The Rede Lecture was delivered by Professor Huxley in the Senate House at Cambridge. The subject was "The Origin of the Existing Forms of Animal Life—Construction or Evolution," and the professor advocated the doctrine of evolution, illustrating his argument by diagrams. The three objections to it were, he said—(1) that it was impossible, (2) that it was immoral, and (3) that it was opposed to the art of design. His conviction of the truth of the doctrine was, he considered, founded on the personal study of twenty years, having devoted all the time he could beg, borrow, and, he was afraid, steal, from other avocations. The endowment of the Rede Lectureship was left to the University so long ago as 1524 by Sir Robert Rede, Lord Chief Justice of the Common Pleas in the reign of King Henry VIII. ; but it remained in abeyance until it was revived by an Order in Council in 1858, since which time it has been delivered by a succession of eminent men. The Chancellor of the University, the Duke of Devonshire, attended the lecture and, at its conclusion, observed that almost all the great discoveries of our time had been dealt with by the Rede lecturer. The name of Professor Huxley, and the position he held in the scientific world, were sufficient guarantee that they would have to listen to a lecture of surpassing interest, and the expectation had been fully borne out. It was not for him to express an opinion on the subject, but it had afforded him much pleasure to be present. He was sure they would all agree that their sincere thanks were due to Professor Huxley, and he proposed a formal vote of the same. The vote was carried by acclamation, Professor Huxley bowing his acknowledgments.

The American Pharmaceutical Association will hold its annual session in this city beginning September 11th and continuing until the 14th. The association numbers about 1300 members, and it is expected that between 500 and 600 will attend the meeting this year.—*Washington Ex.*

Cholera.—With the view of preventing the importation of cholera into the United States, telegraphic instructions have been received at the American Consulate General, London, to appoint a Medical Inspector to examine all vessels clearing for the United States from London and Liverpool. Dr. J. Higham Hill has accordingly been appointed Health Inspector at London.

MELBOURNE UNIVERSITY.—The number of students in the medical school at the Melbourne University has increased from four in 1862 to 180 in 1882. The buildings originally provided for the purposes of medical instruction are now quite inadequate.

A NEW MEDICAL COLLEGE.—Buffalo, N. Y., August 20th.—A new medical college has been established here under the State laws to be known as the University of Niagara. It includes the College and Seminary of our Lady of Angels, at Suspension Bridge, of which Bishop Ryan is president. At a recent meeting of the Board of Regents, at Albany, a charter was granted with university powers. The Faculty is composed of leading physicians of this city.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were admitted members of the college at a meeting of the Court of Examiners on the 19th inst.: Callender, Gerald, Rugby; Cardozo, Samuel Nunëz, L.R.C.P. Lond., Madras; Childe, Charles Phimley, Southborough; Ellis, Charles Cartwright, Oswestry.

SIR EDWIN SAUNDERS.—On July 18th, 1883, Her Majesty the Queen was pleased to confer the honor of knighthood upon Mr. Edwin Saunders, who has acted as dental surgeon to the queen for very many years. Sir Edwin Saunders is well known for his zeal in the cause of dental education, for his generous gifts to the Dental Hospital, and for his dignified and liberal exercise of the offices of President of the Dental Section of the Medical Congress and of the Metropolitan Branch of the British Medical Association. This is the first instance of "royal recognition" of the services of a dentist, and it will have a good influence on all who practise this specialty.

THE RIBERI PRIZE.—*La Gazzetta degli Ospitali* (July 18th) announces that the Royal Academy of Medicine of Turin has unanimously awarded the Riberi Prize, value 20,000 francs (£800), to Dr. Giulio Bizzozero, Professor of Pathology in the Turin University, for his work on the "Physiopathology of the Blood."

DR. T. S. BURKE, of Corpus Christi, Texas, will receive the earnest sympathy of all his friends; his son Holloway was suddenly drowned near the city mentioned.

SPURIOUS HUMILITY.—Dr. Banks, the eminent Dublin physician, has refused the honor of knighthood.

THE ASTLEY COOPER PRIZE.—At a meeting of the Trustees of the Astley Cooper Prize Fund, held at Guy's Hospital on July 20th, the triennial prize of £300 was awarded to Dr. William Alexander, of Liverpool. The subject of the essay was "The Pathology and Pathological Relations of the Disease known as Osteo-arthritis or Chronic Rheumatic Arthritis."

A GREAT CLIMATE.—Besides being remarkable for its name, Buncombe County, N. C., is celebrated for its crops of cabbages (single heads weighing as much as twenty pounds, it is alleged), watermelons, apples, and rattlesnakes. The correspondent of the Augusta *Chronicle* says its natives seldom die, and that in travelling all over its mountains he saw but one grave, that of a man who was accidentally killed at the age of seventy years.

YELLOW FEVER AT PENSACOLA.—The following telegram to the Postmaster-General from Acting Postmaster F. Sollee, Jacksonville, Fla., has been received at the Post-Office Department:

"The Board of Health of this city, in view of the existence of yellow fever at Pensacola, Fla., respectfully request that you order all mail matter from that city for this point to be separately pouched, and confer authority to have the same fumigated at Baldwin, Fla."

TO AUGUST 25th.—This department is brought up to the above date.

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EDITORIALS.

CHOLERA.—As the members of the profession are, at the present time, particularly interested in regard to the subject of cholera, and are constantly asked for such information as may be useful and instructive, a cursory notice, *cum currente calamo*, may not be unwelcome.

Cholera first reached this continent on the 3d of June, 1832, by the brig Carricks, which sailed from Dublin for Quebec. Since that time, it has been studied and watched with all the attention that the terrible importance of the subject demands.

Fifty years ago the physicians of America, in common with those of Europe, believed it to be strictly non-contagious; indeed, those who advocated a contrary view were laughed at and derided.

Since then there has been a great revolution of opinion; the Italian, French, German and English schools, with the great body of American physicians, seem convinced that, if not always, the disease is at least very generally contagious.

It must, in fairness, however, be stated, that there are many able, experienced and distinguished members of the profession yet disposed to advocate a contrary opinion.

It seems strange that, with the many incontrovertible and authentic statements and facts on record, there should be any one unconvinced of the frequent contagiousness of this disease; such is, however, the fact.

If the disease were non-contagious, but due to any one of the only three causes assigned by the advocates of non-contagion, viz., local atmospheric influence, progressive atmospheric influence, or terrestrial emanations, how strange is it, that the disease should never have been seen or developed on this continent, until the arrival of the first vessel that brought the disease to these shores, and that it should have been first developed just where this vessel landed, viz., at Quebec. Strange that it should never have been seen on the coast of South Carolina, until the arrival of the brig Amelia, in

October, 1832, in a stranded condition, at Folly Island; and that the only cases on the island were those employed about the wreck; that the first cases at Detroit occurred soon after the arrival of the steamboat Henry Clay, July, 1832, having cholera on board; that it suddenly made its first appearance at St. Michaels, a healthy village on the eastern shore of Maryland, August, 1832, just after the landing of Captain Dodson, who died the morning after his arrival; that it should have first appeared among the Indians, after the interment of a cholera corpse by the Mohawk Indians; that it should never have appeared in Illinois until the arrival of Captain Blakeman, who had been on a visit to St. Louis, where cholera prevailed, and who died on his return; that it should never have been seen at Key West until the arrival of the Ajax (in a distressed condition), which had sailed from New Orleans, where cholera was raging, and which arrived at Key West with the disease on board!

In an official letter addressed to the Hon. W. H. Seward, Secretary of State, by the Hon. E. Joy Morris, United States Minister at Constantinople, the following language is used:

"Whatever may be the opinion of medical men, it is evident that this disease is propagated by contagion, as it fixed itself in the locality where the first deaths from an Egyptian man-of-war took place, and thence gradually extended itself over the Christian quarter of Pera, etc."

A special report on a cholera epidemic, published in *The London Medical Times and Gazette*, states "that the disease has, in no single case, taken an overland route, unless by caravans, but has travelled from coast-town to coast-town, as it has been carried."

In this history there is nothing new, but everything that is old and established. Least of all, is there anything capricious about the disorder, as some contemporaries say. Cholera follows the sower of it, as does wheat or any other grain, and, like wheat or other grain, it must be carried from shore to shore, and, being carried, must even, when landed and distributed, find a field prepared for it, otherwise it will not grow.

At a meeting of the New York Health Commissioners, in 1865, some interesting facts were elicited on the discussion of the all-important subject of Asiatic cholera. A communication from Dr. Marsden, of Quebec, embracing a plan for keeping out cholera by quarantine, was presented and received with favor by the board. Dr. Marsden, who was formerly President of the College of Physicians and Surgeons, Lower Canada, lays down these propositions:

First—That cholera is a communicable and controllable disease.

Second—That its cause is not in the atmosphere, nor communicable through it, except by a near approach.

Third—That it accompanies human travel and human traffic.

Fourth—That it progresses only at the rate of vessels across the ocean, or by caravans across the land, but never precedes them.

Fifth—That it is transmitted by clothing and effects, as well as by passengers.

Sixth—That it never appears in a new locality without communication, directly or indirectly, with an infected person or place.

Seventh—That it may be arrested, like the plague, by an absolute quarantine.

These propositions agree with those submitted by Alexander Moreau de Jonnes, in 1831, in a report made to the Conseil Superior de Sante, in Paris, on pestilential cholera; and it appears also from the reports of Surgeon Tripler, of the United States Army, that he had been able to control cholera by quarantine.

The Constantinople correspondent of the *Medical Times and Gazette* writes as follows :

"If any one should still have entertained any doubt about the contagious nature of cholera, these must have been finally dispelled by the circumstances attending the last epidemic here, which I shortly described in a previous letter, and which were almost identical with those observed during the visitation of the same disease at the time of the Crimean war. Then the French troops who came from Algeria, where the disease devastated the country, had scarcely been disembarked at Gallipolis, when the cholera broke out among the people there. From this place the disease followed the French to Varna, where it decimated the inhabitants, sparing, however, the intermediate centres of population, and more especially Constantinople, with which the French had not had any communication. At a later period, a camp was formed on the heights of Maslac, the echelon of which was Yeni-keny, in the Bosphorus. This had scarcely been done, when the cholera appeared at Yeni-keny, but in no other quarter of the metropolis ; it was only after some time that the disease invaded Pera, the nearest suburb to Maslac, with which the troops, lodged in the camp, had had frequent communication. Such observations as these are almost as convincing as physical experiments ; they show the connection between cause and effect as clearly as it can be shown in pure science."

Evidence of this character can be furnished to any extent demanded, and yet there are a few physicians in most communities who state that this disease is due to local origin, to atmospheric waves, to terrestial emanations, and to any other cause than that which is deadly to the innocent or ignorant person becoming exposed to it. The public should be taught a safer and better lesson—the true lesson, for it is the truth—that cholera is usually contagious, and that it should be avoided. If it crosses an ocean, it is always by a single line—the line that a cholera ship has traversed ; by land it is found on steamboat and railroad lines and caravan lines, and then speads, from these, throughout the country.

There is no greater fallacy than the popular idea that cholera travels only westwardly. It travelled from Jessore to Canton, which is 1500 miles east of Jessore, in a very short period. Other proofs of the fallacy of this widespread conviction could be easily furnished.

In regard to quarantine, unless a city is surrounded by water and has no railroad connections with other cities, it is useless to establish a quarantine for any other vessels than those known to have the disease on board. The King of Prussia, with blockaded ports and a cordon sanitaire by land, failed to exclude cholera from his dominions. Any vessel, however, known to have cholera on board, should be rigidly quarantined.

Though cholera will prevail where there is strict cleanliness of place and person, its whole history teaches the imperative necessity of having municipal cleanliness strictly enforced. In Brussels and Boston, and a few other cities where there was a rigid enforcement of hygienic laws, the disease disappeared after a few days ; whereas, at Calcutta, New Orleans, Havana, Tampico and other places, where these precautions were neglected, the disease raged with great malignity for many months. A recent report by a Committee on the Cholera Epidemic, states that, "in the progress of the disease, in no other place has there been anything like the terrific ravages in Constantinople, notoriously the most filthy city in Europe." The average duration of cholera in large cities is about ten weeks. In five weeks it usually reaches its climax, and then in a similar period declines and passes away.

The results in this connection are, however, much modified by the cleanliness of cities, and as it is not improbable that portions of this country may soon be visited by this terrible scourge, it is proper for all members of the profession, through the daily press, to impress upon responsible authorities the vital importance of a thorough and prompt system of municipal cleansing and purification.

When cholera reaches a city, all should use extreme precaution. If reckless in regard to themselves, it should be remembered that, in a disease often contagious, imprudence on the part of one endangers the safety of an entire community. There is, too, this peculiarity in regard to cholera, that if one be exposed to its poison, but avoids all of those causes that precipitate the disease, there will, very frequently, be an escape from the disease, or, if it be manifested, this will be in a modified and benignant form.

The general precautions in this connection to be observed are, to wear flannel next to the skin ; to keep the feet dry and warm ; to adapt the clothing to the temperature ; to avoid night air ; to be strictly temperate in eating and drinking ; to guard against an inordinate indulgence of the depressing passions ; to remove carefully all sources (animal or vegetable) of noxious effluvia ; to abstain from the use of those so-called cholera preventives, that are thrown upon the market by weak, ignorant, and dishonest men.

Personal cleanliness should be strictly observed, and excessive eating, or meals late at night, should be rigidly avoided. Intemperance in drinking is specially dangerous. Fatigue, either mental or physical, and long fasts, are frequently the immediate causes of fatal danger.

Dangerous articles of vegetable and animal food should not only be interdicted, but such measures should be taken by municipal authorities as will place it beyond the power of the ignorant, the foolish and the reckless to endanger the lives and happiness of an entire community by the use of proscribed diet.

As the emanations from a cholera corpse are dangerous, public funerals should be avoided, and those at the houses of the deceased should be attended by as few persons as possible. The dead should be buried as soon as it is known that death has really occurred, and no delay should be allowed further than is absolutely necessary to make the usual preparations. As few as possible should go to the cemetery, and the houses after death should be promptly disinfected by thorough ventilation, fumigation, etc.

It is, of course, evident that the sick, whether in hospitals or in private houses, should be treated in separate rooms, and that as few as possible should be allowed to visit them. As one attack of cholera sometimes produces future immunity, the nurses selected should, as far as practicable, be those who have already had this disease.

No one should take medicine as a preventive, for it is apparent to any reflecting mind, that when the system is sufficiently well balanced to perform its functions well, it is in the best condition to resist the effect of all injurious agents.

While cholera is one of the most deadly of diseases, after it has been fully developed, in its incipient stage it is manageable ; as much so as many diseases that occasion no alarm whatever. It should be recollected that even in the stage of collapse the case is not hopeless ; for recovery sometimes takes place when this stage has been reached. Let it also be remembered, that the patient is usually in the possession of his mental faculties (even when apparently otherwise) to the last, and nothing should be said or done or omitted that may depress, distress or alarm him.

Above all things, let it be remembered that this disease is often contagious; that its introduction should be guarded against by quarantining every cholera vessel arriving; that its future dissemination should be anticipated and prevented by a thorough and persistent cleansing of every city; that the members of each community should be taught by physicians through the press that public as well as private safety depends upon individual prudence, not only in avoiding all sources of cholera poison, but those causes which give to this poison its most deadly malignity.

More recent views in regard to the treatment of this disease have attracted some attention; though it cannot be said, from all which has been reported, that there has been any reliable or positive progress in general knowledge as to its etiology, pathology or treatment.

When one takes into consideration the fact, that a rapid exosmosis of the fluid portion of the blood is a pathognomonic symptom of cholera, it is but rational to conclude that the derangement of the sympathetic or organic system of nerves is a fair theory of its pathology, and that stimulus directly or indirectly applied to these nerves is the most reasonable basis for all relative hopes or experiments in therapeutics.

There is another reason for believing that, in an impaired or irregular action of the sympathetic system of nerves is to be found the probable pathology of this disease, and this is, that the reflex actions which are propagated from the internal organs, through the sympathetic and cerebro-spinal system, to the voluntary muscles and sensitive surfaces, produce cramps of the muscles, with more or less impairment of cutaneous circulation and sensibility. Thus, in the rice water discharges and the constantly recurring cramps, the coincident results of a similar cause are manifested.

These views are, of course, speculative, for if experiments, performed on the sympathetic system of an animal in health are vague and unsatisfactory, how much more so must be the relative experiments or deductions in regard to the sympathetic system of an animal in disease.

The success of any treatment addressed to the sympathetic through the spinal system of nerves, can at least be understood, and it is evident that any benefit derived from the multifarious applications, heat, ice, etc., to the spine, can only be explained from the fact that, in this way, the sympathetic system is directly and easily reached.

The rapid introduction of water into the system by allowing the patient to drink freely of liquids or medicated diluents, and the application of the wet sheet or blanket to the entire person, with the same view, have been plausibly suggested, as but proper and rational means for restoring the serum of the blood which, by the various outlets, has been removed from the circulation. This treatment, in the obscure pathology, the unknown etiology and the inefficient therapeutics of this disease, is entitled to general consideration and extensive trial.

Cholera is now on the march. Appearing during the past few months in Egypt, it has progressed rapidly throughout the cities and towns of Africa.

It would be well for all communities to be taught, during an epidemic, partial or complete, of cholera, that diarrhœa is the characteristic, prodromic symptom; that, under such circumstances, the patient should prudently avoid both danger and hyper-medication, by going to bed and remaining there, under careful treatment, until this symptom has entirely disappeared. In a cursory article of this kind, nothing further will be said in regard to treatment, than that there is no specific or specially successful mode of management accepted or believed to be worthy of uniform adoption.

Sixty-five years have now elapsed since the cholera first made its appearance at Jessore, in India, and since that time few portions of the civilized world have escaped its ravages. Its history may now be read in the literature of every language; and the epitaphs of every churchyard furnish, in part, the record of its universal mortality. The Mandarin of China, in the haughtiness of aristocratic power, and the Pariah of India, in the humility of irredeemable degradation; the nomadic Arab, in the wild freedom of his desert, and the beautiful Georgian, in the gilded slavery of her Turkish home; the proud Hidalgo of Spain and the Sybarite of Italy; the Russian, in the cold splendor of barbaric power, and the Greenlander, in all the repulsiveness of physical deterioration and mental obscurity; the polished courtier of France and the wise statesman of England; the soldier of every crown, and the defender of every flag, that marks a nationality of the Eastern continent, have each been called upon to enter the fatal lists of this all-conquering gladiator. On the Western continent there has been but another chapter added to this gloomy history. The poor savage has left a wretched home, in his yearly-decreasing territory, for the traditional hunting-grounds of his fathers, and hecatombs of these dusky warriors have joined their treacherous visitor in the wild dance of death; while from Maine to Mexico, from Oregon to Florida, from Virginia to California, the name of this remorseless enemy is familiar in every household.

Throughout the wide area of this wonderful land, bold rivers and broad lakes roll ceaselessly and treacherously over the forgotten remains of his buried victims, while roadside stones and quiet cemeteries tell the sad story of his last coming. At the mention of this name, the heart stills its beating, while the cheek and eye give involuntary testimony to the power and ruthlessness of the great destroyer. All who have idols and love them tremble at the march of the pitiless Iconoclast, and the world looks with enforced respect upon the stage-tread of this universal Tragedy King.

The Higher Walks of Journalism.—This is a phrase that has gradually been adopted by the medical press, and as it has attracted much attention, it is hoped that its parents and "sponsors in baptism" will be kind enough to say what it is intended to mean.

Who are these editors that are so sublimely perambulating in those "higher walks," and what are the grounds for claiming for them an existence in these so-termed higher altitudes? If such individuals exist, the profession wish to know who they are and where they live, that the public may, in all humility, bow down before them, and do them service, and all possible reverence. If they do not exist, is it not time for such a stupid phrase to disappear and no longer render those who have grown gray in journalism ashamed of such pretension and folly?

Publishing Testimonials.—Many years ago, when Brandreth, and Ayer, and Jayne, and all the worthies of similar kidney, compounded their pills of the cheap and familiar drugs to be found in every drug store, they furnished (with each box of pills) from postmasters, and clergymen, and members of Congress and State Legislatures, and judges, and ladylike men and gentlemanly ladies, from corn doctors, and from the owners of famous stallions, and others equally competent and skilled in the science of medicine, the most astounding testimonials as to the great virtues of these wonderful compounds, and the still greater virtues of their still more wonderful compounders. Each testifier said of the great man, of whose knowledge and skill he so eloquently testified, there is in medicine but one God, and Allah is his prophet. And each fellow who sold his pills and furnished these testimonials with every box, came, after reading these sublime stories daily, to believe that they were true, and that, after all, he was not a scamp and a humbug, but a philanthropist and a great man in his generation. And then he gave his autograph, with sublime condescension; and then, with great generosity, his likeness; and then, to render the gratitude of the public complete, he even went so far as to have on his phials his name "conspicuously blown in the glass." And all said, amen; this man is great! And they bowed down before him and worshipped him, and filled his letter-box with greater lies and his coffers with gold.

The profession looked on and smiled, and said what sublime fools, what supreme folly. And they regarded the giving of testimonials to be on a par with the receiving of them and with the publishing of them.

Now, how is it? What has the medical press to say? and when has it last said it? *The very medical journals of the profession publish testimonials of themselves*, even laudatory extracts from private letters, sent by kind and confiding friends! "Tell it not in Gath; proclaim it in the streets of Askalon." *Tempora mutantur et nos mutamur cum illis.*

DESIRABLE LOCATION AND PROPERTY FOR SALE.—Attention is called to the advertisement under this caption. The physician wishing to sell this property is known to the editor, and the terms and advantages offered are liberal and unusual. He is eminently entitled to the confidence of all who are interested in such a purchase.

MANUAL OF AUSCULTATION AND PERCUSSION. By AUSTIN FLINT, Sen., M.D.—In reviewing this justly prized volume, in the June journal (p. 695), attention was called to the fact that the author did not use *duration* of sound as one of the guiding tests to a correct diagnosis. The author has called attention, by note, to the fact that on page 31 of his second edition, this matter is brought before the reader. The error of the reviewer is, therefore, promptly corrected. It was due to the fact, partly, of hasty examination, and to the additional fact, that in the first edition of his work, the distinguished author had not used the *duration of sounds* as a guide in physical diagnosis.

CASE OF TREPHINING FOR THE RELIEF OF INSANITY.—In the February number of the *Mississippi Valley Medical Monthly*, there appeared an article with the above caption, contributed by Dr. J. P. McGee, of Trenton, Tenn. As the case was one of interest, an original abstract of it was prepared for this journal, and was soon after published. The only material comment made was that the operation appeared to be useless and unnecessary.

The author of the paper and the operator thought this comment unjust, and called attention to the original paper. On examining his paper, it is found to conclude with the statement of his own opinion in regard to it, viz., that the operation being undertaken "for the relief of insanity," the "restoration to sanity was wholly uncertain;" that the attacks of epilepsy, due to traumatic cause, would "cease entirely" in one or two years.

In making his abstract of Dr. McGee's paper, the physician so engaged overlooked the statement, that "the mind of the patient is now as clear as ever it was," that the epileptic attacks had ceased, and that "the operation is a success." He failed to notice, also, two other cases somewhat similar in character, one by Dr. W. T. Briggs, and the other by Dr. W. B. Rogers; one terminating fatally and the other in "recovery."

These statements in behalf of Dr. McGee are made with pleasure, and will, it is hoped, tend to attract increased attention to so interesting a subject.

DUNGLISON'S REFERENCE BOOK.—In the July journal, Dunglison's Reference Book is mentioned as being published by H. C. Lea's Sons. The book is one of the publications of P. Blakiston, Son & Co., 1012 Walnut Street, Philadelphia.

"HOMŒOPATHICALLY PROLONGED GESTATION."—A lady, four years in the Homœopathic Asylum at Middletown, New York, and never visited by her husband, became pregnant. As an explanation of this somewhat peculiar circumstance, Dr. Talcott, superintendent of the asylum, said: "It might be stated in brief that cases of protracted pregnancy have been reported, and some of the most eminent physicians believe it, and I have quoted this case as covering three years. I had charge of the patient less than two years before the child was born." None but a hahnemaniac could have so abused the credulity of a legislative committee.

HOW CHOLERA IS CAUSED AND PROPAGATED.—Sober accounts of the pilgrimages which give perennial origin to this scourge of the world present a picture of misery and squalor which is almost beyond belief. Day and night throughout the year troops of devotees press along the highway. Five sixths are women; 95 per cent are on foot. The sick and feeble die on the way. It is a point of religion to have no change of clothing, and all arrive in a pitiable condition. At Juggernaut some 90,000 live on temple food, which is wholesome enough when fresh. But it is holy, and must be as entirely consumed as the wafer at mass. In that climate it soon undergoes putrefactive changes, but the deadly, loathsome mass is swallowed. They sleep in streets which, when it rains, are stinking canals. The dead are laid in the corpse fields, from which birds and dogs are not excluded. Then follows the return trip, sometimes over a thousand miles. Only the strongest survive it. On the banks of one stream a traveller counted forty unburied bodies. It is thought that one in five or eight die. Altogether some 50,000 die yearly. Perhaps there is nothing else so pitiable in the world, as certainly there is nothing else like it. Under such conditions the peculiar germ of cholera is propagated, but when once started on its westward way there is no ascertained limit of time, temperature, or distance to its fatal travels. If Pasteur discovers a prophylactic, his name will never die.

THE INSANE ASYLUM MURDER.—*Philadelphia, Pa.*—Coroner Samuel Atkins, of Norristown, held an inquest on the body of William A. J. Fiss, who died from injuries received at the hands of James Gaffey, an attendant in the Norristown Hospital. Ex-Governor John F. Hartranft, Israel Fleischman, Thomas R. Brown, George W. Simons, Samuel M. Bines, and Colonel James Boyd, of Germantown, of the Board of Management of the hospital, were present, as was also George L. Harrison, ex-President of the Board of Public Charities. A number of witnesses testified to the assault upon the dead man by Gaffey, and Dr. Robert H. Chase, resident physician of the male department of the hospital, testified *to his knowledge of the case*, and said: "I am morally certain that Gaffey struck Fiss oftener than he was willing to admit. Fiss, after the fight, could return no intelligible answers to questions, but was incoherent. There was a meeting of the Board of Trustees on the Friday following the assault, but I did not report the event to the Board. I was very busy at the time, and I forgot it.

The Board censured me at the time, and *I had no excuse except my forgetfulness.*" The verdict of the jury was "that William A. J. Fiss came to his death at 12.45 A.M., August 5th, 1883, by pyæmia or blood-poisoning, resulting from injuries received July 5th, 1883, by the hands of James Gaffey, an attendant at the Asylum for the Insane at Norristown, for the Southeastern District of Pennsylvania, while the decedent was an inmate of said asylum, under treatment for insanity." After the examination, and while the jury were deliberating, the Board of Managers held a meeting, and took action on a resolution which was passed on August 3d. Under this a committee, headed by General Hartranft, was appointed to investigate and report on the injuries received by William A. J. Fiss at the hands of James Gaffey. The committee censured Dr. Chase for not having caused the arrest and commitment of Gaffey for his crime, and urged the Board to take the necessary measures for his arrest. The steward was instructed to offer a reward of $500 for the capture of Gaffey.

Why was not Dr. Chase summarily dismissed? How can any community be satisfied in regard to asylum management, when a medical superintendent is simply "censured" for allowing so brutal a murder to take place, and not having the infamous scoundrel at once turned over to the civil authorities?

TIMES CHANGE AND WE WITH THEM.—In 1832, the beautiful trees of Charleston, S. C., were cut down and destroyed, because the physicians believed them to be "inimical to the health of the citizens." Now how is it? "A number of gentlemen of Charleston, S. C., have met together to form an association to secure the planting of shade trees. The meeting resulted in the appointment of a committee of seven to report a plan for an association in November."

NEW ORLEANS BOARD OF HEALTH.—At a late meeting of the Board of Health, a report was made of the recent visit of Dr. J. H. Rauch, of Illinois, and the organization by him of a spy system upon the Health Officer of Louisiana. Therefore the following resolution was embodied and carried by a unanimous vote:

Whereas, Dr. J. H. Rauch, the Secretary of the Board of Health of the State of Illinois, has recently visited New Orleans and directly interfered and tampered with the health operations of the State Board of Health of Louisiana; and

Whereas, Since the dissolution of the National Board of Health, there has been an effort made by illegal bodies to assume to perform its pernicious functions and mischievous tendencies; be it

Resolved, That the President of this Board be and he is hereby requested to respectfully suggest to his Excellency, the Governor of Louisiana, to confer with his Excellency, the Governor of Illinois, on the propriety of confining Dr. J. H. Rauch to health operations within his own State, and to instruct him to cease his designing efforts to impair public confidence in the State Board of Health of Louisiana.

The resolution was adopted after vigorous and emphatic speeches by Messrs. Marks and Booth, repeating in detail the interference of Dr. Rauch with the operations on the Board.

FISH AS FOOD.—Sir Henry Thompson has recently delivered a lecture on "Fish as Food." It was an able summary of the known facts about fish, but the speaker went too far in his denunciation of the notion that fish eating increases brain power as a "complete fallacy." It has long been perfectly well known to physiologists that the phosphorus theory must be discarded, but it is a fact beyond dispute that fish is a form of food which is easily digested, and proves specially nutritive. Sir Henry Thompson thinks that the only way it acts is by putting a man's body into proper relation with the work he has to do. This may be quite true, and doubtless is so, but the brain is an integral part of the body. Moreover, it comprehends a considerable number of the most important centres of the nervous system, whence the body as a whole derives its power. Therefore in putting a man's body in proper relation with his work, fish does act by supplying his nervous system with specially available nutriment.

THE CAUSE OF POVERTY AMONG PHYSICIANS.—It is stated that in Philadelphia one-fifth of the entire population receive free medical attendance at the dispensaries of the city.

ECONOMICAL CREMATION.—The cost of cremating seven thousand bodies per annum, at Bombay, is said to be only £3000, or rather less than ten shillings for each corpse.

COOK COUNTY'S HOSPITAL (Chicago)—THE OFFICIAL'S ASYLUM FOR RELATIVES.—A commissioner had thirteen of his own or his wife's relatives in the hospital in some paying capacity. The hospital managers became such because they were county commissioners, and they became county commissioners because as saloon keepers or petty politicians they acquired the requisite influence with the laboring classes, or learned how to manipulate the nominations of and float with the party. One of these men is under trial, having been indicted for conspiracy in trying to oust the present warden and put in his own tool. Another commissioner called upon a physician to resign because he disagreed with the commissioner respecting the treatment of a case of lacerated perineum.—*Detroit Journal.*

CHOLERA IN CHICAGO.—The twenty-seven cases of supposed cholera which were discovered in a Chicago boarding-house prove to have been only twenty-seven cases of ordinary colic. The persons attacked were seized with violent cramps after partaking of a simple repast. consisting of ice cream, watermelon, green peas, and roast veal. During the summer season attacks of this kind are as common as they are inexplicable. Certainly no one will pretend that the innocent articles enumerated in the above attractive Chicago bill of fare could cause an ache in even the most delicate stomach. But such aches are often caused by some dietetic indiscretion, and in these cases there is a very simple remedy which rarely if ever fails to afford immediate relief. Let the patient sit down at once and eat heartily of lobster, cucumbers, green apples, and Welsh rarebit, with plenty of lager beer, milk, and bar-room claret. It is better and cheaper to resort to these homely domestic remedies than to drug one's self with pills and nostrums. If this be done, the reports of "cholera in Chicago" will attract no further alarm, and there will be so many fools less in the world.

ECCLESIASTICAL ICE CREAM.—The poisoning of fifty-nine persons in Camden, S. C., is one of the most remarkable events of the day. They were poisoned by eating ice cream at a Baptist festival, and the accident has not only cast a gloom over the local Baptists, but it has filled the managers of church festivals all over the country with uneasiness.

This Baptist ice cream not only poisoned members of other denominations, but also some of the oldest and best Baptists of that community. There was certainly very bad management in all of this, and it is evident that ecclesiastical ice cream cannot be relied upon as a safe proselyter.

DANGER OF BURIAL GROUNDS.—England claims to be a leader in sanitation, and yet there is an intention of placing at Bethnal Green buildings capable of holding some 400 families on ground containing upward of 20,000 human bodies, *numbers of which have not yet entirely decomposed.* Even if decomposition had been completed, such a soil would be a highly improper one for the proposed purposes, at least until after the lapse of a long period of time. It is bad enough to know that London dwellings have been erected on house refuse and road sweepings, but the present proposal is even worse from a sanitary point of view.

INTERNATIONAL MEDICAL CONGRESS.—The general organizing committee intrusted with making the preparatory arrangements for the eighth International Medical Congress which will, according to the notice already published some months ago, be held in Copenhagen from the 10th to the 16th of August, 1884, has been formed, and consists of twenty members selected from the medical men living either in or near Copenhagen. This committee, following the example of the committees of previous Congresses, will communicate with men distinguished in the various branches of the profession in different countries, and when a programme is formed it will be forwarded to all those supposed to take an interest in the work of the Congress and who are likely to take part in it. The general secretary is Professor C. Lange, and with him those who feel interest in the meeting are earnestly desired to communicate, specifying, if possible, the section which they intend chiefly to join.

CHOLERA PRECAUTIONS AT LONDON.—The Local Government Board have issued admirable printed papers on the subject of precautions against cholera, addressed to medical officers and local sanitary authorities, of which copies have been published in nearly all the daily papers. They insist upon the importance of attention to purity of soil, air, and water in houses, and discuss the details by which they may be secured. Copies may be had on application to the Local Government Board, Whitehall.
What has any Board of Health in America done in this matter?

THE DEATH OF CAPTAIN WEBB.—The death, at Niagara, of Captain Webb, the veteran swimmer, is deeply to be regretted, not only for its own sake, but because a useful life has been thrown away in the pursuit of an idea. Webb had done much to show that with proper precautions against loss of heat in the water a healthy man might sustain life in a somewhat rough sea during a considerable period. It cannot be questioned that the moral effect of Captain Webb's swim across the English Channel was good. It attracted attention to swimming, and doubtless gave courage to many who have since profited by his example in the saving of life. Unfortunately, it is not possible to say as much for the attempt to swim across the turbulent waters of Niagara. A more stupid act has never been perpetrated.

THE ELECTRIC LIGHT.—"Nobody," says Nym Crynkle, "appears to have noticed one effect of the electric light—it is going to make brunettes fashionable again. The white glare is, in a color sense, death to the blonde. The pinkest of them take on little shadows under the eyes, and purple tints come into their lips, and their cheeks get ashen. I am speaking now of a natural blonde. The effect upon the artificial bleacher is simply cadaverous. But the brunette sparkles under it like the evening star. What a dreadful state of existence the dear enamelled will lead when they can neither go out at day or night! I suppose you know that the hot sun heats the face of enamelled women, gets hot to blister the flesh underneath, which would split the artificial covering. If, then, the electric light shuts them in at night also, they might as well be enamelled all through in the old Egyptian style—put into a sarcophagus."

Fatal Sea-Sickness.—At an inquest held by the coroner at Plymouth on the body of a poor girl, an emigrant from Ireland, who died of sea-sickness between Cork and Plymouth, it appeared that deceased was attacked with sickness soon after leaving Cork, and became quite prostrate. The ship's surgeon was called to her, but was unable to induce her to take brandy, and she died. The house-surgeon at the Plymouth Hospital, who made a post-mortem examination, stated that the girl's heart was weak, and excessive vomiting was quite sufficient to have brought on a fatal attack of syncope.

Dr. Frank L. Rea's Death.—Dr. Frank L. Rea, assistant demonstrator of anatomy in the College of Physicians and Surgeons, Chicago, Ill., died on Friday, August 10th, of malignant facial carbuncle. His death has attracted a great deal of attention from medical men in that city. The history of his affliction was related by one of his associates. On Tuesday, July 31st, he was sitting in his office when he felt a prickling sensation on the left side of his upper lip. He went down-stairs to a druggist, and asked him to pluck a hair out of his moustache over the place of the pain. The druggist complied with the request, and, when he had plucked the hair, Rea looked at its bulbless end, and said:

"Mr. Jacobson, that is the last of me; it is a facial carbuncle. I will lock up my office, bid you good-by, and go home to die."

The druggist laughed at him, but the young physician locked his door and went away, leaving a card that he did not know when he would return. He went to his uncle's house and told him what he had experienced, adding:

"I am done for. I will never have another well day, and will be dead in ten days."

The family laughed at him, and he retorted by drawing out his diary and writing this:

"Carbuncle started on my lip. I know what it means. No post-mortem, if you please."

Beneath the entry were two numbers corresponding to pages in a standard author, in which the remarkable fatality of the disease is spoken of. The doctor had got his intimate acquaintance of the disease by treating the case of a fellow-student, Mr. Eagle, which ended fatally at the hospital a year ago. After making the entry he persisted in talking of his approaching death, and made all his plans. Everything was done to distract his attention, but without avail. The sore was opened and cauterized. A week ago last Friday another pimple appeared about the same time on the other side of his lip. A day or two afterward it was opened and cauterized. The disease remained indifferent for a day or two. The doctor's temperature then arose to 104° and his pulse to 140. He went to bed on Monday, and was in a comatose condition from that time until he died, five days later.

What have the Chicago exchanges to say to this?

The Ownership of Prescriptions in France.—A rather curious lawsuit lately took place before the justice of the peace at St. Germain, in which a pharmacist was prosecuted for having refused to give up a prescription that was taken to him by a patient. The patient claimed the prescription as being his property, which the druggist contested; but the tribunal decided otherwise, and the prescription was restored to the patient. The Société de Médicine Légale, commenting upon the case, admitted that the decision of the judge was unassailable from a legal point of view, but took the same ground as most medical societies in this country, namely, that the repetition of prescriptions is sometimes injurious to patients, and always detrimental to physicians, in a pecuniary sense.

Novel Management of a Drug Store.—During the present summer, Mr. Alfred Ebner, a druggist doing business at No. 457 Third Avenue, Brooklyn, has been much annoyed by having his door-bell constantly rung at night by the conscienceless youth of the neighborhood. Mr. Ebner determined on revenge. It was, therefore, with a feeling somewhat akin to a holy joy that late on the night of July 25th he heard his door-bell receive a most vigorous "yank," which was repeated at intervals of a few seconds. Arming himself with a base-ball club, he crept stealthily down the stairs and approached the door with catlike tread. A second later the door flew open, and the irate druggist pounced upon a small, round-faced personage who was in the act of giving the bell a ring more vigorous than any he had yet attempted. Ebner plied the club vigorously, and the small personage yelled "Murder! Watch!" in the deep base tones of a mature man. When the druggist paused for breath it suddenly dawned upon him that his victim was not an unregenerate small boy, but a rather diminutive man who had come to have a prescription made up. The druggist was profuse in his apologies. He not only promptly supplied the medicine his visitor required, but applied to his physical hurts such healing ointments as the case called for. The person assaulted was Mr. John Ryan, of No. 326 Third Avenue, Brooklyn. Refusing to accept the druggist's apologies, Ryan had him arrested and taken before Justice Bergen, who imposed a fine of $5. Not satisfied with this determination of the case, Ryan has commenced a civil suit in the Brooklyn City Court to recover damages for the assault.

The Comparative Value of the Races.—Ethnologists are, as yet, undecided as to which race of mankind they are to give pre-eminence. Every fact, therefore, which bears upon this subject and tends to facilitate the solution of so great a problem becomes interesting and important.

The cash value of a young German woman to her husband has just been settled (so far as a single transaction in Brooklyn could settle it) at $100; though the quotation may not be an exact indication of the market, on account of the peculiar conditions of the transfer. Mrs. Baumiller, the subject of the sale, ran away from Mr. Baumiller in company with Mr. Kleinhenz, to whom title to her has now passed, taking with her $170 deposited in her name by Baumiller in a savings bank. Baumiller, with the aid of the Brooklyn police, began an irregular proceeding, partly in the nature of replevin and partly in the nature of the enforcement of a lien, by regaining possession of Mrs. Baumiller and holding her for charges. The settlement involved the return to Baumiller of $100, less furniture (to an unspecified value), which he agreed to surrender with her to Kleinhenz, giving a quit-claim deed. It will be seen that it is difficult to determine, in so very mixed a transaction, precisely what estimate was put upon Mrs. Baumiller. But everybody must admire the excellent spirit shown by the Brooklyn police in bringing about an amicable settlement of a dispute which, in some cases, would have led to an annoying litigation. There is, however, an indication in the narrative of the market value of "a pretty German woman, tall and slender, with long, black hair, and dark, piercing eyes," an indication which, slight as it is, is of some value whenever the question of the comparative value of the races is discussed with a view to a final decision of it.

An Unprecedented Ocular Delusion.—Dr. Holden, of Newark, N. J., was, it seems, "hunting birds" at Beach Haven, about thirteen miles from Atlantic City, N. J., and while thus engaged saw an unknown schooner sink off Beach Haven with all hands. It is said that she was pursued by a steamer ; that both vessels were heading for the shore under full sail and steam, and that when about five miles out the schooner suddenly sank. It is also said that the schooner carried a black flag. No clew has been obtained as to the identity of the schooner, and the affair is "wrapped in mystery." Such an occurrence or rather description of occurrence, of course, has attracted great attention. Up to the present time, no more is known of the matter, and there are many curious speculations in regard to it.

That piratical schooner, low, long, rakish, crowded with men and flying the black flag, which suddenly sank off the Jersey coast in the sight of a New Jersey doctor, is certainly a mystery. The beverages of New Jersey, invaluable as they are to the student of opthalmology, have never before, strange as it may seem, produced a sight at all resembling that of a sinking piratical schooner. The New Jersey doctor must have come into possession, either by discovery or in some other way, of a new and peculiar variety of beverage ; and the desire for further information on the subject among thoughtful and progressive lovers of New Jersey concoctions is very great.

The thoroughness of detail with which the doctor saw that mysterious schooner certainly demands admiration, but with a liberality beyond all praise he throws into his vision a strange steamer, which chased the schooner until the latter went down. A man of such ability and liberality combined will be greatly in demand at all seaside resorts as soon as enterprising landlords learn of his existence. These landlords have hitherto paid fair wages and furnished unlimited beverage to professional seers of sea-serpents, but they could afford to pay double wages to any one who can see piratical schooners, and can sink them in the immediate vicinity of hotels.

Ingenious persons are already asking if the doctor's schooner may not have been a Fenian cruiser. Of course, such people confound the objective and the subjective in a way that would bring tears to the eyes of a Concord philosopher. *The real question is, What is the doctor's favorite beverage, and where does he get it?* It is to be hoped that in the interests of science and hotel-keepers he will answer the question without delay.

Is there known to science any beverage, or any such beverage as a New Jersey doctor would drink, which can produce before the eye "a low, long, rakish schooner filled with men, and being chased by a steamer?" It is a great question. Ophthalmologists will hereafter take a new and greater interest in all doctors who go "hunting birds."

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LONDON, May 3, 1882.

Lactopeptine having been prescribed for some of my friends during the past five years—apparently with very satisfactory results—its formula, which is stated on the bottles, and its general characters, have become well known to me. But recently, the manufacturer of this article has asked me to witness its preparation on a large scale, to take samples of its ingredients from large bulks and examine them, and also mix them myself, and to prepare *Lactopeptine* from ingredients made under my own direction, doing all this with the object of certifying that *Lactopeptine* is what its maker professes it to be, and that its ingredients are in quality the best that can be obtained. This I have done and I now report that the almost inodorous and tasteless pulverulent substance termed *Lactopeptine* is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, *Lactopeptine* is a skillfully prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of acids that are always present in the healthy stomach; all begin to be disseminated in an appropriate vehicle, namely, powdered sugar of milk. To acids used at the factory—lactic and hydrochloric—are the best to be met with and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase" or starch-digesting (bread-, potato-, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredients, are as good as any I can prepare; while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards the chief ingredient, pepsin, I have only met with one European or American specimen equal to that made and used by the manufacturer of *Lactopeptine*. A perfectly parallel series of experiments showed that any given weight of acidified pepsin, alone at first acts somewhat more rapidly than *Lactopeptine* containing the same weight of the same pepsin. Sooner or later, however, the action of the *Lactopeptine* overtakes and outstrips that of pepsin alone, due, no doubt to the meat digesting as well as the fat digesting powder of the pancreatin contained in the *Lactopeptine*. My conclusion is that *Lactopeptine* is a most valuable digesting agent, and superior to pepsin alone.

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STONE OF THE TRIPLE PHOSPHATE.

Case of Mr. C——, of North Carolina, stated by Dr. G. Halstead Boyland, Professor of Surgery, Baltimore Medical College; Late Surgeon French Army, Decorated; Member of the Medical and Chirurgical Faculty of the State of Maryland, etc.

"The case of Mr. C——, of North Carolina, who arrive at the Springs June 21st, affords undoubted evidence that Buffalo Lithia Water Spring No. 2, is a Solvent for Urinary Deposit, commonly called '*Stone in the Bladder.*' About a year previous he was operated upon for Stone, the operation affording but partial and temporary relief. He complained of pain in the Lumbar Region, and pain and irritability of the neck of the Bladder. He was emaciated; suffering greatly from Insomnia; and his general condition very unfavorable. Upon arrival at the Springs he was passing small quantities of a Urinary Deposit of the *Triple Phosphate of Ammonia and Magnesia* variety. Large flakes of bloody mucus were found in the urine. For the relief of present suffering he was making frequent and free use of opiates. He was put upon the water of Spring No. 2—from six to eight glasses a day. In a few weeks the *Solvent Properties of the Water* were evident in the diminished consistency of the Deposit, the increased quantity discharged, and by its change from *Concrete Lumps to Fine Sand*, which he discharged to the amount of *four ounces*. The quantity, however, diminished, until, after a stay of six weeks at the Springs, he has returned home with the *Deposit* dissolved and washed out of the system, and the *Diathesis Fons et Origo Morbi* altered. There has been a disappearance of the attending distressing symptoms described, and great improvement in his general condition."

STONE IN THE BLADDER (URIC ACID).

Case of Dr. B. J. Weistling, Middletown, Pa., stated by himself.

"Experience in its use in *Stone of the Bladder* in my own person enables me to attest the wonderful efficacy of the Buffalo Lithia Water in this painful malady. After having been long subjected to sufferings, the intensity of which cannot be described, I have, under the influence of this water, passed an ounce of *Calculi* (*Uric Acid*), some of which weighed as much as four grains, affording inexpressible relief and leaving me in a condition of comparative ease and comfort.

"On one occasion I passed thirty-five *Calculi* in forty-eight hours. The appearance of this *Calculus Nuclei* indicates unmistakably, I think, that they were all *component particles of one large Calculus, destroyed by the action of the water, by means of solution and disintegration.* At my advanced period of life (I am seventy-seven years and six months of age) and in my feeble general health a surgical operation was not to be thought of, and the water seems to have accomplished all that such an operation, if successful, could have done."

STONE IN THE BLADDER, AND HEMORRHAGE FROM THE BLADDER.

Case of Mrs. ——, stated by Dr. J. B. Jones, Charlotte, N. C., Member Medical Society of North Carolina.

"Mrs. —— suffered with *Stone in the Bladder*, composed of alternate concentric layers of *Calcareous Matter and Lithic Acid*, attended with occasional alarming *Hemorrhage* from the Bladder.

"In a critical condition I prescribed for her Buffalo Lithia Water, Spring No. 2, the continuous use of which *arrested the formation of Stone* and diminished both the frequency and the violence of the *Hemorrhage.*"

URIC ACID CALCULI.

Case of Dr. J. D. Eggleston, Hampden Sydney, Va., Member Medical Society of Virginia; stated by himself.

"The action of the Buffalo Lithia Water in the so-called *Uric Acid Diathesis* is especially happy.

"I have a very gratifying experience in its use in a case of *Uric Acid Calculi*, in my own person. Between February 1st and May 1st, 1881, I had thirty attacks of great severity, passing in each one of them a number of Calculi, aggregating 165. Finding no permanent benefit from any treatment of the profession, I made a visit to the Buffalo Lithia Springs. The happy adaptation of this water to my condition was soon evident, and its use for a few weeks arrested the *Calculus* formation and resulted in my entire relief, which I have reason to hope is permanent, as more than a year has elapsed since there has been any manifestation of the trouble. In affections generally of the *Urinary Passages* requiring Alkaline treatment, I know of no remedy of equal potentcy with this water."

STONE IN THE BLADDER (URIC ACID), SYMPTOMS OF BRIGHT'S DISEASE.

Case of Mrs. ——, stated by Dr. David E. Smith, of Bronxville, Westchester, N. Y.

"Mrs. —— was subject to severe attacks of *Gout*, a consequence of an inherited *Gouty Diathesis*, followed after some time by *Stone in the Bladder.* The limbs were very *Œdematous*, so much so as to pit readily on pressure with the finger, leaving an indentation long after its removal. The urine was loaded with *Urates* and 25 *per cent Albumen*, and the microscope revealed *Casts*, showing unmistakably, as I thought, *Bright's Disease of the Kidneys.* I prescribed the Buffalo Lithia Water, Spring No. 2, which afforded prompt relief in the *Gouty Affection*, and resulted, in a few weeks, in the passage of a stone ⅝ of an inch long by ¼ of an inch in diameter. Under the continued use of the water the urine has been relieved of *Albuminous Impregnations*, and restored to a normal condition, no *Casts* can be discovered, the *Œdematous* condition of the limbs has been relieved, and the general health of the patient, to a great extent, restored."

STONE IN THE BLADDER, PHOSPHATIC.

A Case stated by Dr. B. S. Hardy, Hookerton, Green Co., N. C.

"My son, a young man, suffered from *Stone* in the *Bladder*, of a *mixed character*, consisting chiefly of *Calcium, Carbonate,* and *Phosphate.* After persistent use of all remedies indicated in the case without benefit, I put him upon Buffalo Lithia Water, Spring No. 2, the use of which, for some six weeks, resulted in the passage, at short intervals, of *Gravel*, of small size, and at times of particles of *Sand*, followed, sometime afterward, by the discharge of a *Stone* weighing twelve grains (the largest, I am confident, I ever knew to pass through the Urethra), virtually ending his troubles, since which time any unpleasant symptom has been relieved by the use of the water for a short time. Its action in this case has been indeed wonderful."

URIC ACID GRAVEL.

A Case stated by Dr. Hasford Walker, of Georgtown, S. C.

"Mr. George C. Congdon, of this place, suffering from *Uric Acid Gravel*, has been under my treatment for some time past. He had as many as six separate attacks (all of them of very great severity), between June the 28th and July the 16th, a space of eighteen days. He declined in flesh and strength rapidly, and to such an extent as to excite serious apprehension as to the result. Having exhausted the most approved remedies of *Materia Medica* without beneficial results, I prescribed for him, as a last resort, Buffalo Lithia Water, Spring No. 2, with the happiest effects. In a very short time after beginning its use he passed a Calculus of about six grains in weight, has not been troubled since, and is now, to all appearance, entirely well."

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ORIGINAL ARTICLES.

ARTICLE I.—LIGATION OF THE FEMORAL ARTERY IN SANGUINEOUS EFFUSION BELOW THE POPLITEAL REGION. Reported by J. M. F. GASTON, M.D., Campinas, São Paulo, Brazil.

For the April number of this journal in 1881, I reported a case of ligature of the subclavian artery, and another in which the femoral artery was ligated, in consequence of traumatic lesions, and subsequent effusions of blood in the adjacent tissues, stating that "both of these cases presented common factors, in the nature of the wounds, the obscurity of the diagnosis in the early stage, the resort ultimately to the ligation of arteries, and the subsequent death from delay in resorting to this measure." The record closed thus: "These cases go to confirm the history of similar accidents, in which a gradual discharge is kept up from an injured artery, so that there is little prospect of the healing of the vessel by the lapse of time, and hence the sooner an operation is performed the better will be the result."

An opportunity has been afforded recently for verifying this indication, under circumstances which give a peculiar practical importance to the facts.

A negro boy, of eighteen years of age, while engaged in service as a slave upon a coffee estate near this city, stepped backward into an excavation, and fell sideways, giving a twist upon the knee-joint by which it was dislocated. There being no one at hand to render proper surgical assistance, he was treated unprofessionally and doubtless with all the care that zeal without knowledge could bring to bear upon the injured limb; yet it is evident that undue violence was employed after his removal from the field.

The accident occurred in the coffee field, the excavation being made for the planting of the scions, or young trees, and being usually eighteen inches deep and ten or twelve inches in diameter, so that the foot descended readily to the bottom, while his body inclined to one side as he fell backward.

This occurred about 10 o'clock, A.M., on the 19th of May, and being unable to support himself upon this leg, he was carried by the other slaves some two miles to the headquarters, and did not observe that there was much swelling below the knee up to this time, though the distortion of the articulation was very perceptible.

Not having any accurate description of the kind of irregularity presented, it is not possible for me to define the special nature of the dislocation; but after the forcible extension and counter-extension the deformity disappeared, and the distension below the knee became notable. I have been thus particular in giving the details of the facts connected with the occurrence, so that others may be enabled to judge of the grounds for the diagnosis that was subsequently made.

The knee and leg were bathed with cloths wet with hot salt water during the afternoon and night, without any relief to the suffering or any diminution of the distension, which was supposed by those around the patient to be an ordinary swelling, following the injury to the knee-joint. He stated that the night was passed without sleep, and that there was a sense of coldness in the extremity, so that on the day following it was considered a case for surgical care.

His master finding that the suffering continued, and that swelling occurred below the knees, sent him into the city to the care of my colleague, Dr. G. Melchert. Upon examining the case he invited me to see it with him, and we concurred in the opinion that either the popliteal artery or one of the branches immediately below the knee had been ruptured, and that sanguineous effusion existed in the cellular tissue extending for a considerable distance along the sheaths of the muscles. Both of us having participated in the management of the former disastrous cases, we were not slow in determining upon the course to be pursued to save this case from a similar result. It was thought best, however, to have the co-operation of another surgeon, and Dr. Thomas Alves, Jr., was invited by Dr. Melchert to meet us at the hour fixed for the operation in the infirmary of the latter.

His conviction in regard to the necessity of proceeding immediately to ligate the femoral artery, coincided with our decision, and without further delay the patient was chloroformed, preparatory to undertaking the operation. The site of the arterial trunk being defined by its pulsation at the junction of the middle and lower third of the thigh, Dr. Melchert proceeded to make the necessary dissection for exposing the femoral artery, and, after separating it from the vein and nerve, it was securely tied.

A free incision was now made over the most prominent part of the distended tissues below the knee, and the coagula were removed so far as was practicable with the fingers, and by subsequent injections of warm water slightly carbolated.

Drainage tubes of caoutchouc were passed upward and downward on the inner border of the gastrocnemius so as to reach the points into which the blood had been forced by this hydraulic power of the cardiac pump, and the surrounding parts were enveloped in a warm flaxseed poultice, while the lower part of the leg and foot were wrapped in cotton batting.

He took internally ten grains of sulphate quinine with one half grain of sulphate of morphine soon after the effects of the chloroform wore off, this being about 9 o'clock P.M., and passed the night comfortably.

There was some febrile reaction when he reached the city in the afternoon of the day subsequent to the accident, and the febrile excitement continued next day.

From the time of injury to the hour of the operation at 7 o'clock P.M., May 20th, it will be observed there elapsed more than thirty hours, even calculating the lesion of the blood-vessel from the occasion of the forcible extension and counter-extension at 12 o'clock M. on the previous day. But it was not supposed that the effused blood had undergone any decomposition, as it was completely occluded, and hence that no septic result was to be anticipated when the accumulation was removed. We concurred, therefore, in making but a single free incision on the inner border of the belly of the gastrocnemius, and trusting to the repetition of the carbolated washes two or three times daily, for removing the deposits of blood in the interstices of the cellular tissue above and below this point. The local inflammation was not considerable, yet suppuration set in at the end of a week, and continued for a month, and in the mean time the ligature came away from the femoral artery and that incision closed.

There was, as a consequence of the violence to the articulation from the accident, an arthritis, which continued to give some trouble, but now at the end of two months all has disappeared, and the patient is able to walk about the room without crutches.

The sensibility and temperature are normal in the leg and foot, while the general state of health is entirely satisfactory. Upon examination along the track of the femoral artery, pulsation cannot be discovered but for a limited space below the inguinal region; and I could not perceive the pulsation of the posterior tibial artery when it passes behind the inner malleolus, yet the circulation is evidently fully established by the anastimosing vessels at present, July 23d, 1883.

Thus a most salutory result has followed the resort to timely operation, when by delay perhaps there would have ensued all the untoward consequences of purulent absorption and septicæmia.

This case presents some points for consideration independent of the history of accidents in which there is a lesion of the deep-seated blood-vessels by an incised wound, as in the latter there is always an indication of a more or less definite nature as to the site of the injury, and consequently a clew to reaching the branch that is divided for ligation. Under the circumstances narrated in the present lesion, it could only be inferred that effusion resulted from rupture either of the popliteal or some branch below, and the only recourse was the ligation of the femoral above.

Being convinced that the proceeding above noted may prove a useful guide to others under similar conditions, it is reported as a striking contrast to my unfortunate results of the former record.

ART. II.—REPORT ON HEMORRHAGIC MALARIAL FEVER. By D. R. WALLACE, M.D., Waco, Texas.

In submitting the result of such cursory and imperfect investigations as they were enabled to institute of the grave malady indicated in the above caption, your committee beg to state that, in the performance of the task imposed, the purpose has been to bring before you for consideration such phases of the disease as, from the obscurity involved or unusual manifestations accompanying, call for and justify special inquiry and examination, rather than to attempt an exhaustive investigation. The prime desideratum in the nomenclature of a disease being that the name shall, as nearly as practicable, be expressive of the pathological condition existing and of the part implicated. Those who have given the public the benefit of their observations in the medical periodical literature of the past few years since this disease has, from its prevalence and fatality in most of the Southern country attracted attention, have from their different standpoints of observation or peculiar views entertained of this somewhat newly arrived in the domain of nosology, and claiming a suitable appellation as appropriate to its character, exhibited their ingenuity in the number of designatives with which they have honored it; as specimens of which the following are reproduced: Hemorrhagic malarial fever, green jaundice, black jaundice, miasmatic hæmaturia, cachæmia hemorrhagica, icterode pernicious fever, malignant congestive fever, yellow remittent, interior yellow fever, purpuræmic fever, yellow disease, canebrake yellow fever, swamp yellow fever. It is noteworthy, that while no special pathological condition is indicated, all point to the blood either directly or by necessary implication. Whether this has its origin in appearances only, which do but strike the senses, serving the while to mislead the judgment—the primary morbific blow being dealt elsewhere—is left sub lite. It is suspected after a somewhat careful examination of what has been written, and pretty close scrutiny of clinical facts, that a name going nearer to the primary lesion, more expressive of the true nature of the malady, might be suggested—a name indicative of its most characteristic feature—one, which though existing in other diseases is believed to cut a figure in the train of morbid phenomena in this, entitling it to a consideration it has not yet received. The allusion will be understood when the pathology of the disease (in the place for it) is treated of. Of infrequent occurrence for the last decade or two in the Southern country, it has no

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as a distinct disease prior to 1867–8, when, from its frequency and fatality, it began to attract the attention of the profession. Numerous communications, contributed by eye-witnesses, some of no mean merit, have since appeared from various portions of the country. So little was known of it prior to this time, that so well informed an authority as Dr. Austin Flint, as late as '68, seems to confound or rather identify it with the intermittent or paroxysmal hæmaturia, reported in the *Edinburgh Medical Journal*, May number, 1868, by Dr. Edward Headlam Greenhow, a disease of the British Islands, originating from exposure to cold and wet, never from malaria. Diversified as medical opinion may be in other respects, in regard to its etiology, all are agreed that it is malarial. The circumstances under which the disease makes its appearance remove all question as to its cause. Therefore, it might occur to a disciple of the "change-of-type" school to put the question to one of the no-change way of thinking ; why is it miasm produces this form of disease now, seeing it did not do so formerly under circumstances apparently more propitious than those which have existed since its general prevalence. It will be seen at once that the change of typists who are generally, if consistent with themselves, neuropathists, find no difficulty in accounting for it upon the supposition of a generally lowered condition of vitality ; while the advocates of the no-change theory, looking through their humoralistic glasses, as they do, satisfy themselves with a denial of the facts. The fact, whatever the explanation, is noteworthy, and may prove significant.

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will delay but little. No trouble in assuring one's self of this fell presence. The usual symptoms presenting in other forms of malarial disease, present in this ; more restlessness, jactitation and retching, or more gaseous pulse, finally the characteristic discharge from the bladder settles the matter. With no disease known to the nosological annals of the country is there danger of confounding hemorrhagic malarial fever. Simulating in its most characteristic symptom cystic hæmaturia of southern Africa, and the Nile Valley, caused by ciliated animalculæ, an intermittent or paroxysmal hæmaturia already alluded to, yet differing in other symptoms and circumstances of origination, toto cœlo, from these its differential diagnosis presents no difficulty. We approach a portion of our inquiry :

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directing and controlling, as it does, all rational therapy, having paramount claims in our investigation. Recognizing this fact, almost every observer who has given the profession the benefit of his observations, has conceived himself under special obligations to explain the pathological conditions involved, and while there has appeared, as was to have been expected on so obscure a subject, great diversity of opinion, no little ingenuity has been displayed, under circumstances, too, most generally so adverse to accurate research as to dampen the ardor and discourage the efforts of any, save the most resolute. This statement will be appreciated, when it is remembered that the observations embodied in and the conclusions arrived at in these communications were made and deduced not seldom in the cabins of the poor, remote from those appliances with which, under more favored surroundings, science is wont to conduct her votaries in their obscure explorations ; another illustration of a great fact in the history of medicine, never to this good hour sufficiently appreciated, that the great granite rocks of truth and fact which enter into the foundation and constitute to no small extent the superstucture of medical science, have been dug out of the quarry by the laborious country practitioners, who, though performing the labor, get none of the honor ; this being reserved for the few, who, favored by fortune with more leisure and nicer appliances, polish and adjust them, in that great temple of medical science, whose glittering sheen fixes the admiration of the world. One of the earliest of these pioneer explorers, a man whose broad, practical good sense, powers of accurate observation and extensive learning, would make him an ornament to any walk or department of our noble art, Dr. J. M. Morrison, of Hearne, Texas, published his views in an essay entitled "Jaundice with Hæmaturia," in 1867. Without indicating any opinion as to where or in what way the primary impression is made, resulting in a series of morbid phenomena, which taken together constitute the disease, he holds that the hæmaturia is to be explained thus : The effete blood corpuscles not being removed from the circulation by the secretion of bile, as in health, become eliminated by a vicarious action of the kidneys ; that they thus assume a state of congestion predisposing to hemorrhage ; that in this condition of the renal organs, the blood itself is retarded in its course through the abdominal viscera by inaction of the liver, the while taking on a more hemorrhagic tendency in consequence of not receiving that peculiar impress it is the office of the liver to impart to it, said tendency being heightened by the solvent principles contained in the bile acid, resulting in hemorrhage. Dr. Charles P. Gordon, of Dalton, Ga., reads in the hematuria "an active congestion and inflammation of the renal organs, attended with all the danger and fatality consequent upon an obliteration of their proper function and of a retention in the blood of those elements excreted by them." Dr. W. H. Green, of Americus, Ga., delivers himself thus on the subject : "The exhaustion, stupidity and low muttering delirium indicate derangement of the cerebro-spinal system, and the alteration of the capillary circulation and of respiration, of the secretions and excretions, of the structures of the spleen and kidneys, are indicative of derangement of the sympathetic system of nerves. The poison acts primarily upon the blood, altering and destroying its corpuscles." Dr. R. F. Michel, of Montgomery, Ala., states that in all the cadavera in which he inspected them "the kidneys were enlarged, presenting the appearance of having passed through severe inflammatory action, in consequence of which the excretion of urea is prevented. It accumulates in the blood, and unless vicariously eliminated must sooner or later produce its pathological effects." Dr. W. D. Brodnax, of Cameron, Texas, in the July (1872) number of the *Richmond and Louisville Medical Journal*, on the subject of malarial diseases, thus discourses: "Malaria produces its first impression on the sympathetic or organic nervous system." Dr. Francis Barnes, *New Orleans Medical Journal*, March number, 1867, in an article entitled "Nerve Force and Blood Changes," a production of great pretension and some merit, finds the secret of the whole matter, the key that fits into and unlocks every obscurity and intricacy, investing the mysterious phenomena developed in an attack of this fell malady. "The affection is an assemblage of symptoms, the result apparently of an impression on the nervous centres." . . . "These observations," resumes the learned doctor after detailing the most striking features of the disease, "these facts and a number of others of like character should prove conclusively, first, that the chemical composition of the blood itself is influenced in a most wonderful manner by the vital action of the nervous system; secondly, this action alone is sufficient to account in a great number of cases for an altered and broken-down condition of the blood, without having to account for it by the theory of ferments present in the blood in the shape of poisons acting directly on its chemical composition, instead of indirectly through the nervous system." . . . "We know that the nervous system has vital action over the chemical composition of the blood." If nervous influence will occasion different products, as secretions from the same kind of blood, it is not difficult to conceive that the nervous action can alter and modify the blood itself; and that an altered condition of the blood may not only be found when the death has occurred from the instantaneous destruction of the life of the nervous system, but may exist to the detriment and distress of all the vital functions from a dynamic impression of the nervous system, which, however, has not been immediate but only the remote cause, should death not ensue immediately from this impression. Dr. B. M. Cromwell, Albany, Ga., puts us in possession of his opinion. "Now as to the pathology of hæmaturic fever, I regard the disease," says he, "as a blood poison produced by the imbibition of an inordinate dose of malaria." . . . . "From many years' observation of malarial disease, I am convinced the blood primarily suffers in all malarial poisoning, and it suffers by reason of its disks—its oxygen carriers." Dr. J. H. Sears, of this city, sets forth in some unpublished views, which he has kindly submitted to inspection, the following pathological interpretation of the "situation:" "The primary influence of the poison is on the lymphatic glands, particularly the spleen, the chief of supply to the blood of white corpuscles. The miasm exercises a peculiarly stimulating or irritating effect upon this organ, increasing its size and heightening its function, thus producing a larger number of white corpuscles than necessary to a normal condition of the blood, destroying the balance between the white and red corpuscles. Impressed with the circumstances under which they were generated, these corpuscles fail to fulfil their proper office; seem more independent; are not disposed of as originally intended; are diverted in their normal career, and may become merely melanæmic. They increase pari passu, with the stimulus supplied; the red the while decreasing, until instead of the normal proportion, one white to 300 or 400 of the red, they are about equal. The source of the red blood declining, a larger number of shrivelled, wrinkled, contracted bodies are seen floating in the circulation in a melanic or moulting condition, ready to be cast off as excrementitious matter. This condition, existing for a longer or shorter time, according to the nature of each case, there appear melanæmic bodies in the white corpuscles, an abortive effort of nature probably to supply the red corpuscles. These bodies are constant in malarial fevers of serious import. When this dyscrasied condition of the blood has existed for any considerable length of time, the result most generally is a chill, by which the vital action is lowered, and the action of the heart increased, but correspondingly diminished in force. There ensues spasm or contraction of the superficial capillaries, which forces a large number of these adhesive white corpuscles, melanic and melanæmic bodies, into the viscera and upon the mucous surfaces. Thus the minute capillaries of the brain, liver, spleen, and kidneys become clogged and their circulation arrested. Thus the functions of these organs are interrupted, predisposing to hemorrhage, especially in the kidneys and the mucous surfaces of the stomach and bowels. When reaction returns, the superficial capillaries are relaxed, and these corpuscles and other bodies force themselves into them, causing so much distention as to result in an exudation of serum stained with hæmatoidin from the débris of the corpuscles and melanic bodies, producing discoloration of skin or icterode appearance.''

These interpretations of the pathological conditions existing in this grave trouble, it is hardly necessary to state, illustrate respectively the humoralistic and neuric views. It were not difficult to construct a theory just as plausible and as much in accordance with the facts observed from the standpoint of those who hold, to employ the language of their great chief, Rudolf Virchow, of Berlin, "that the cell is really the ultimate morphological element in which there is any manifestation of life, and that we must not transfer the seat of real action to any point beyond the cell."

Of these theories all, some fall shorter of, some approach nearer to the truth ; some exhibit a more superficial, some a profounder, understanding of the mechanism of life. But all are struggling toward the light—each one a nisus in the right direction—all may serve as beacons and guides to more enlarged views, as light increases, nuclei, in the mean time around which observation may gather her facts for future reference.

A single observation additional : whether the blood or nerve centres, whole nervous mechanism, ganglionic system, or cell action receive the primary morbific impression, one fact seems sufficiently clear ; the nerve force falls so low, so much beneath the normal standard, whether in consequence of the influence exerted upon innervation by malerial intoxication, directly or indirectly, through the blood from changes impressed on it, thereby causing a lesion of nutrition and secretion necessary to the functional activity of the several tissues, systems, and apparatus of the economy ; to repeat, the nerve force falls so low, its action becomes so enfeebled that it loses the directing, controlling, conserving influence over the economy normally belonging to it. Hence it is not unreasonable to conclude that, in addition to other sources of destructive change in the vital fluids, the elective affinities normally existing between the elementary constituents of the blood, and which in health are presided over and directed to the conservation of organic life by nerve force, are left to riot in all the licentiousness of their chemical tendences. Who, in this event, may conjecture the result to the organism ? In the supposition itself there would seem no inherent improbability ; certainly none in the phenomena observed. It were much to be deprecated, that in the

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of this, at the best, fatal affection, there is so little consensus of opinion or uniformity of practice of malarial origin, and attended with what he conceives to be great biliary derangement. One practitioner insists upon the exhibition of mercurials even to the extent of obtaining their constitutional effects; while the other reads in the spanæmic condition unmistakable contraindications to their use, deprecates them as defibrinizers and spoliatives, and will have it, so far as the liver is concerned, its only effect upon that important viscus is to diminish the secretion of bile; while a third party confines all his hopes to the free use of opiates to quiet irritation existing in nerve centres; the fourth is quite sure that their only effect will be to dry up the secretions, albeit so necessary to the preservation of the economy to prevent fatal toxæmia already imminent. In a miasmatic disease endowed with periodicity (however masked) the only rational expectation of a cure, urges another, is in antiperiodics, and where shall we find anything like, anything second to, the inevitable sulphate in all the domain of therapy? "Hold," cries an authority quite as respectable and claiming much experience in the treatment of the disease, "do you not see that the whole nervous mechanism is ajar already, and do you not know that it is but adding fuel to fire to give quinine under such circumstances; and besides, do you forget that the cases are not few in which your favorite salt has produced this identical disease?" "Iron, iron," insists an authority, "as a hæmostatic, iron for the spanæmia to furnish this necessary constituent for the hæmatin in the red corpuscles so indispensable to intra-oxygen, and for want of which the animal heat failing to be generated, is declining." "By no means," returns his neighbor practitioner, "it is as clear as the sun in mid-heaven, that your ferruginous preparations are of no worth, the stomach being in such condition, that however needed, they cannot be introduced into the blood; moreover, your so much lauded muriatic tincture will only serve to irritate still more the stomach, and prevent, as incompatible with it, the exhibition of a remedy of more worth than all others besides." "My entire reliance," puts in a practitioner over yonder, "is upon the free use, internal and external, of turpentine." "It may be good," replies one over here, "but never having seen any indication for its use, have not tried it." "Use acids freely—lemons, lime-juice—they are grateful to the patient and antidotal of malarial intoxication," confidently exclaims Dr. A. "Do no such thing, the idea is preposterous," impatiently retorts Dr. B., "the stomach is full of them already, use antacids, alkalies." Bewildered by such, not diversity simply, but contrariety of opinion, the conscientious medical man, anxious to give his patients suffering from this, as from all other diseases, the benefit of all that is known in the healing art, turns away in disgust. Possess your spirit in patience, friend. It is no worse in this than in most other diseases. It only seems so, because in a new disease, draped in obscurity, you are over anxious for certitude. Discard the expectation. It belongs not to our art. Specifics are but the dreams of distempered imaginations. Our bodies are too fearfully, too wonderfully made for any well-informed medical man, in the present condition of our science, to think twice of the possibility of specifics. The empiric, and he only, naming the disease, plies his specifics. An age of adventure, fertile in experiments and daring in their application; an age of mental activity and intellectual independence; an age in which the "Marcus dixit, ita est," paraphrased:

> "Did Marcus say 'twas fact? then fact it is;
> No proof so valid as a word of his"

has been left in the past—has played out. In medicine, as in every other department of human effort in our times, men must act for themselves, pro re nata.

In regard to the treatment of hemorrhagic malarial fever, it will be found, it is believed, that there is a class of cases—and strange enough this class is most numerous in the most intensely malarial districts—that will do well and recover under any or no treatment; while there is another class—most numerous in proportion to the whole number of cases in those districts in which malarial fevers are not very prevalent, and in which this particular form of the disease is rarest—that will die with any treatment. Thus much premised, it will not be expected that any particular line of treatment should be indicated. There are few diseases in which it is less admissible. In this, as in so many other affections, the cry not seldom comes, ho! here is the way, walk ye in it. The cool nil admirari is as becoming the sensible physician on such occasions, as it is philosophic in all the walks of life. No sensible physician is misled for a moment by these ignes fatui, whatever their vulgar glare. The true medical man, who has the root of the matter in him, will treat any and every case according to the great recognized fundamental principles that constitute the basis of the healing art. Not the "sea-weed" of the Roman satirist is "viler" than any and every attempt to prescribe a fixed line of treatment for a given disease. Ice, acidulated drinks, effervescing mixtures, small doses of calomel and morphine—the latter especially where there exists much centric nervous irritation—to quiet stomach; sponging with cold water; the cold douche, followed by free use of turpentine and other stimulating liniments and epithems to restore equilibrium of circulation; such quieting remedies or measures as may seem most eligible in each particular case—for no two require precisely the same—to quiet extreme restlessness and jactitation. Such treatment addressed to the primae viae as special indications may point out, and finally in those cases in which there exists well-marked periodicity, the timely and unsparing exhibition of the sulphate of quinine constitute a brief outline of a treatment such as, it is believed, will be found to commend itself to the recognition of the well-informed physician. Various multiplied numbers of other agents might be mentioned as useful in fulfilling these indications. Further specification is not deemed called for. It would seem, that if the conjectures—for they amount to little more—of some who have given much attention to the investigation of this disease be true, that that portion of the nervous system, whose office it is more especially to supply innervation to the various processes of organic life, is more immediately involved, the liberal exhibition of belladonna by mouth, or where that mode of using it is not practicable, the subcutaneous being employed—using the sulphate of atropia instead of the cruder preparations—ought to be of service. Submitted to the test—nullum ego cognosco remedium nisi quod tempestive usu fiat tale—this agent, whether from mistaken pathological indication or shortcoming in therapeutical efficiency of drug, has not met expectation. A word—its importance demands it—of the sulphate of quinine in this disease. It is not at all difficult to understand why those who do so commend it as the remedium principale in all cases. Of miasmatic origin, as all admit, manifesting in most cases well-pronounced indications of periodicity, this agent, facile princeps of antiperiodics, would seem to be especially indicated—called for by the nature of the disease and gravity of the symptoms. That in by far the greater number of cases it will accomplish all that is within human competence in an antiperiodic direction is not questioned; but that there is a class of cases to which it is not adapted; that there are cases of which it is the immediate or exciting cause, is an opinion that has become too fixed in the minds of a portion of the profession, is too well established, in fact, to be dislodged by ridicule or pushed aside by the cry of authority. That it has supervened upon the exhibition of a single dose of this salt in cases in which it was not previously threatened, under circumstances precluding the possibility of mistake, and this repeatedly is a fact too well attested in this community to admit of question. Now, in these cases, admitting them such, can it be supposed that its action can be other than deleterious? If so, upon what principle? Similia similibus curantur. The principle, well enough, perhaps, for a disciple of Hahnemann, is not admitted here. "But quinine is antidotal of malaria." It is denied that quinine has any such property in any true sense of the word; in any such sense as the sesqui-oxide of iron is antidotal of arsenious acid. "If not antidotal, how does it cure malarial diseases?" It is possible there may exist some misapprehension in regard to the action of this familiar agent. It is not uncommon to hear it spoken of as an arterial stimulant and sedative as well, in the same breath. We have grown familiar with the expression, sedative doses of quinine. If an arterial stimulant, it is a very singular one—one wholly sui generis. That there are certain conditions in which it acts as an arterial stimulant is true, but not more so than that in certain others, it has no such effect; and under certain other conditions it acts as a nervous excitant is not more true, than that under others its action upon the nervous system is powerfully depressant. It is concluded, therefore, that its remedial effects are in virtue of neither its stimulating nor sedative properties. How does it cure the chill? As an antiperiodic. There are remedies for these affections which, it is believed, act differently—arsenious acid and the hyposulphite of soda; e.g., the former by its tonic, the latter, probably, by its antizymotic property. By an antiperiodic, in this connection, is meant not simply a medicinal agent, preventing the recurrence of a paroxysm, but one doing so by virtue of equalizing the circulation, preventing the recession of the blood from the superficial capillaries and its accumulation within the viscera; effecting this result by its power of distributing, so to speak, innervation normally through the system. This is believed to be precisely the modus operandi of the sulphate of quinine. It is believed, further, that there are conditions of the human body in which such action is not only remedial, but positively mischievous. Some such explanation as the following may serve to place the matter in its proper light: Innervation is directed to such parts of the body as the wants of the same may require for some special purpose of exigency; e.g., to the stomach after the ingestion of food, to the uterus to sustain the orgasm necessary to parturition. Now, in the absence of any other explanation of the fact, that the sulphate of quinine does bring on, is occasionally the exciting cause of hemorrhagic malarial fever, this hypothetical one is given: From some part or parts of the economy already belabored by the enemy (malaria), and upon which an extra amount of innervation has been determined to assist it in its efforts to sustain itself, the quinine by its equalizing properties diverts such extra nerve force, depriving such part or parts of the means of support that nature has provided, and in this manner the way is open for an accession of the disease. If this explanation, or anything like it, be true, may there not be conditions of the system in attacks of this disease in which this agent, so valuable in almost all cases of malarial trouble, will aggravate the symptoms? There are those who feel assured that such is the fact. It may be from some such action as that just supposed; it may be that it interferes in some other way with innervation, or possibly it is detrimental in some other way. It is but stating the truth to admit, that in those cases in which the quinine aggravates the symptoms, most of them at least, nothing seems to do much good—it is just these cases which show least indication of periodicity, those cases that generally prove fatal under any treatment.

As a suitable conclusion for the paper which has already greatly transcended the limits contemplated, a few thoughts on the

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of this dreaded disease are submitted. For those cases in which the apyrexia and recurrence of the paroxysm are most decidedly pronounced, and during the former the urine clears up or shows a tendency to do so; and in which quinine is well tolerated, causing little derangement of innervation, a favorable termination may be confidently expected. On the other hand, in those cases in which pyrexial flushes and rigors alternate at short intervals, in which there is great nervous derangement, in which the discoloration deepens, surface becomes mottled and the temperature declines; stasis of the superficial capillary circulation, pulse becoming more gaseous; early coming on of suppression, accompanied by symptoms of uræmic poisoning, there is little to hope from the resources of our art. There seems to be great difference in the fatality of the disease in different sections of the country. In portions of Alabama in the years 1867–8, the larger portion of the attacked died. The accounts from some districts even state that not a case escaped. The mortality ranges, as given by different authorities, from 25 to 50 per cent. In some localities it would seem to amount to little more than any other form of intermittent fever. Some practitioners are reported as stating that they have treated many without ever having lost a case. Their statements true, they have certainly met with a very different class of cases from those occurring in this part of the country.*

ART. III.—YELLOW FEVER—AN OPEN LETTER. By W. H. DOUGHTY, M.D.

AUGUSTA, GA., August 25, 1883.

Dear Dr.: Your favor of the 18th inst., asking for the journal my further experience with the use of solvents for the false membranes in the treatment of diphtheria, was duly received. I regret my inability to comply at present; perhaps, I may do so in the future, as the results up to this time compare very favorably with any and all other modes of treatment.

In lieu thereof, I mail a manuscript containing a preamble and resolution relating to yellow fever, which was intended for presentation to the American Public Health Association, at Savannah, Ga., session of 1881. For some reason it met with no favor at the hands of the Executive Committee, and as far as I am informed, never reached the Association at that or the session of last year at Indianapolis.

I send the paper unaltered, leaving the reader to adapt it to the new audience—the profession at large; the object had in view is, I trust, made sufficiently clear.

If you approve it, give the paper a place in your valuable journal, and invite the action of such medical societies (city, State, or national) in its support as may also do so.

Appealing thus through the medical press to the intelligence of the great body of the profession, it is hoped that even the public sentiment of the country may ultimately be brought to bear in aid of the desired legislation by Congress. At this moment all the resources of the country are expended to prevent the introduction of yellow fever by a merciless quarantine; are, indeed, restricted to this. Shall we accept this as a perpetual duty and the limit of our resources? Or, in imitation of the illustrious policy of France as against cholera, or whatever vitally threatens her industries, shall we so legislate as to invite a knowledge of the *causa causans*, and thus possibly make precise for its destruction and control what is at present left solely to empirical observation? I cannot believe that your readers will regard the measure suggested as superfluous, or that the intelligent American public, when once the subject is fairly presented, will withhold their sanction. The commerce of the country demands an energetic appeal to the spirit of philosophic inquiry into this subject, while humanity invokes relief, as well from the rigid quarantine that prolongs exposure to contagion, as from the disease itself. Shall the memorial be sent? and by whom?

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* In McLennan County the per cent of mortality is believed to be from 25 to 35 of the whole number attacked.

With great respect, I am yours very truly

W. H. DOUGHTY, M.D.

To E. S. GAILLARD, *M.D*, *Editor* GAILLARD'S MEDICAL JOURNAL, *New York City.*

Mr. President: I ask leave to submit the following resolution, relative to yellow fever, for the favorable consideration of this Association:

Whereas, the insecurity to the public health from epidemic prevalence of yellow fever, is chiefly due to a total ignorance of the real cause of the disease, together with the circumstances and laws governing its generation, reproduction, and spread, and *whereas*,

The portability of said cause conveys the idea of physical qualities, perhaps, tangibility and possible ultimate identity, by some means within the reach of science; therefore, with a view to stimulate inquiry in this direction, and thereby subserve the commercial interests of the country and the welfare of its citizens,

Be it resolved, that the Congress of the United States be memorialized through the Secretary of this Association, to offer a premium of $100,000, open to the world, for the discovery of the true cause (or germ) of yellow fever, or of any certain means of effecting its prevention, destruction, or harmless modification, the same to be subjected to such practical tests, under the direction of Congress, as will determine its real merits and efficiency.

By the above resolution it is proposed to supplement the activity of the National and other boards of health, by opening the door of investigation to the world of workers and observers within and without the walks of science, adding such a stimulus in the proper line of inquiry as will confer upon the discoverer substantial profit along with merited honor and distinction. I know of no more appropriate body for such a suggestion to emanate from, than the one that I have the honor to address, representing, as it does, the influence and authority of the great American public in all matters pertaining to the public health. Positive knowledge on all subjects pertaining to sanitary science, and on this one in particular, is the great desideratum. All measures of quarantine and of internal hygiene, at present in force, however judicious and forcible, are simply *defensive* in character, and altogether indirect; and must of necessity remain so, as long as directed against an unseen, intangible, and unknown entity, protected by ignorance and clothed in mystery.

A philosophical inquiry into the nature of that cause, with the aid of the ever-increasing facilities of science for elucidating occult subjects, affords the satisfactory hope of our being able to devise both aggressive and defensive means. The sterility of past investigations need not become a cause of paralysis for the future; much less may our inability to solve the abstruse problem find justification in an unwillingness to promote the inquiry. The problem is more pressing now than ever, because the railroad transportation of disease germs has acquired equal dignity with their importation by ships, and thus the danger has been made co-equal with the railroad development of this section.

Within the realm of science there are many quiet workers of equal capacity and industry with those more distinguished, whose activity, awaiting opportunity, will be stimulated by the hope that the discovery of only a single additional feature (or link) in the character or quality of this poison or germ, or cause, of whatever nature or source, might reveal the secret of its prevention, destruction, or material modification, and thus place it in the power of sanitarians to disarm it as completely as vaccination does small-pox.

I shall make no attempt to indicate from what direction this light is likely to come; when least expected, it will appear. The assurance is positive, however, that whoever enters this dark recess of nature and reveals the essential cause of this and other similar fevers, so far as to make it the subject of experimental study and demonstration, will have achieved an eminence equal to the greatest of his fellow-men, and be worthy of emoluments higher than the award proposed. I believe it not too much to hope that, as Koch, although unknown to fame at the time, cultivated under his eye in his microscopic garden, the bacillus anthracis, the germ of splenic fever in cattle, reaping a harvest of spores with which to demonstrate its tenacity for life and uniform power in the production of the disease, some one will also arise to solve this profound mystery. Indeed, it is already announced that Klebs has discovered the bacillus of typhoid fever, and it is expected that the natural history of this organism will throw much light on the prevention and treatment of this disease, one essentially of social origin.

I have thought the suggestion of sufficient importance to merit the attention of this Association. Perhaps, there may be those here who believe that a vigilant quarantine will confer practical immunity against the disease. It may be so, but even the most sanguine will scarcely desire to make it nugatory of the object sought in the above resolution, or dispose of it as superfluous. If there be any such present, they will suffer me to remind them and this Association that, even in the absence of the very efficient quarantine at present enforced, yellow fever has for years in succession spared the Atlantic and Gulf coasts; thus warning us, that the apparent merit of our resources may be, after all, simply the caprice of the enemy. The danger consists in knowing too little on this subject, and there is no room to fear that the measure here presented and advocated would be barren of all good results. If, happily, it should be crowned with success, the light of knowledge thus acquired will give precision and force to your acts. At present they are altogether empirical, valuable or valueless, only as they be confirmed or set aside by future investigation. At any rate, in the words of a distinguished foreign physician, "We may rest assured that the more we know of our enemy, the more successfully we shall be able to combat him."

Respectfully submitted,

WM. H. DOUGHTY, M.D.

AUGUSTA, GA., November 26, 1881.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

TREPHINING IN SYPHILITIC SUBJECTS.

Perrin (*Progrès Médical*, June 16th, 1883) has reported the case of a man who five years after a forehead gun-shot wound contracted syphilis. The gun-shot wound produced an exostosis followed by irregular but obstinate headache. Thirteen years aphasia and symptons of the traumatic neurosis made their appearance, which did not respond to anti-syphilitic treatment. Trephining was followed by improvement and a temporary relapse yielding to anti-syphilitic treatment. The patient is known to be in excellent mental and physical health. Després, in his discussion of this case, intimated that syphilis was a self-limited disease; when its cycle of changes is accomplished it disappears. Champeonnière was of opinion that cerebral syphilis, unless treated, ran a progressive course. Horteloup stated that there were two types of changes due to syphilis, one primary and yielding to treatment; the other secondary and intractable, not being luetic in its nature.

SPURIOUS GONORRHŒA IN THE MALE.

Dr. J. M. Batten (*Pittsburg Medical Journal*, January, 1883) reports the following case: A young married man stated he had a gonorrhœa contracted from his wife. He was asked whether he had had intercourse with any other female, but denied this emphatically. He had noticed a urethral discharge, had consulted a physician who pronounced it gonorrhœa, and under the circumstances the disease in question must have been contracted from his wife. Upon examination, a urethral muco-purulent discharge, without any swelling of the meatus, was found. His wife's genital organs were perfectly healthy. The supposed gonorrhœa was simple urethritis contracted from the wife when menstruating. The causes of simple urethritis are many. The first and most prominent is a previously diseased urethra. A healthy urethra may become inflamed by mechanical violence, by intense and prolonged venereal excesses, by injections into the urethra of strong and irritating lotions, and contact with leucorrhœal pus and menstrual blood. Gonorrhœal pus, however, is the most common cause. In subjects of a strumous, rheumatic, gouty or strongly lymphatic diathesis, especially when the health is broken down by cachexia, overwork or other causes, the urethra is highly prone to take on subacute inflammation from the most trivial causes. The same is true also in subjects with an unhealthy urethra.

TYPHO-MALARIAL OR CONTINUED FEVER.

Dr. R. D. Webb concludes a paper in the April number of the *American Journal of the Medical Sciences* as follows:

Seeing, then, that fevers are so closely allied generically, and that even when separated into species, there are striking resemblances; that pathological researches do not establish a constant anatomical lesion, which is pathognomonic of any one of them; and that ulceration of Peyer's glands (claimed as characteristic of typhoid fever) is frequently found in other diseases, we are justified in claiming that a *continued fever*, occurring under circumstances which point to a miasmatic origin, although it may present many of the vital phenomena of the typhoid fever, and occasionally its recognized anatomical lesion, is still *malarial* fever.

There remains, to his mind, but one other explanation of these continued fevers, viz., that they are to be regarded as atypical typhoid fevers, originating *de novo.*

But, admitting the origin, *de novo*, of typhoid fever from animal miasm, and that possibly it may have thus originated in the example he has given, even the warmest advocate of this view will be unable to bring those sporadic, isolated cases which occur again and again in *malarial*, but otherwise salubrious and healthy country localities, within the rôle of such instances as are claimed as establishing this mode of origin.

The natural conclusion, taking all the facts into consideration, is that they are *malarial fevers* of a typhoid form, using the term typhoid, not in a specific sense, but as indicating a typhoid condition of the system.

COLOR-BLINDNESS FOR GREEN.

The extreme infrequency of green-blindness, which is admitted by the followers of the Young-Helmholtz theory, and denied by Herring and his school as being inconsistent with their theory, is sufficient reason for directing attention to a case of this character reported in the April number of the *American Journal of the Medical Sciences* by Dr. James L. Minor. The case was that of a male, aged eighteen, whose vision was perfect, and the fundus was normal, but he was unable to select green from certain other colors, while blue and red were quickly and accurately recognized. Dr. Minor thus explains this condition: The green perceptive elements in the retina were so far reduced that they could not be acted upon without setting up at the same time an undue action in the red and the blue perceptive elements which are in greater abundance than in the normal state; and thus a mixed sensation is excited, that furnishes the color zone in which green and its derivatives are placed by the patient.

IPECAC IN LABOR.

Dr. G. H. Sullivan, Gadsden, Tenn. (*Southern Practitioner*, July, 1883), says that, "when the woman is in actual labor, with rigid parts and sluggish uterine contractions, ipecac in five-grain doses every half hour has the effect of increasing the frequency and strength of uterine contractions."

DRAINAGE IN ABDOMINAL SURGERY.

Dr. Kehrer (*Centralblatt für Gynakologie*, No. 3, 1883) says that the prone position, after fixing short drainage tubes in the abdominal wound, has not been tried, and would be impossible. The method of drainage by tubes through the vagina is impaired by the difficulty of keeping vaginal secretions from the abdominal cavity. The method of drainage by tubes through the abdominal wound into Douglas's pouch, is objectionable, because the fluids will flow out only when they have reached the height of the outer end, or must be removed in some manner by suction. The syphon method is not applicable, because the fluids are not present in sufficient quantity, as a rule. He has tried capillary drainage by means of a wick with excellent result. The wick, after being thoroughly disinfected by several hours' boiling in a five per cent solution of carbolic acid, is drawn through a piece of rubber tubing, and introduced into the abdominal cavity. The end in the abdomen is divided into three portions: one in Douglas's pouch, the other two at the sides of the peritoneal cavity. The free end is spread out in the gauze dressing. In less than twenty-four hours the dressings become soaked with reddish fluid, so that they must be changed under spray. This occurs several times in the first forty-eight hours, when the secretion ceases, and the tube is removed. In order to change the wick frequently, which is necessary as the capillary spaces become quickly plugged and the capillary action ceases, Kehrer has prepared a double canula, the outer one being left *in situ*, the inner one removed, and charged with a wick as often as may be necessary. Hegar (*Centralblatt für Gynakologie*, No. 7, 1882) has used Kehrer's method with success, modifying it in two ways. He uses a simple glass tube in place of the complicated metal double canula. Kehrer uses a long wick, the end of which projects from the upper end of the drainage tube and conducts the fluids into the gauze dressings. Hegar regards this procedure as increasing the difficulty of keeping the whole antiseptic, and instead uses short strands of wool, changed as often as they become thoroughly soaked. Ordinarily, only in the first twelve hours is frequent change necessary.

ERGOT IN PERTUSSIS.

Dr. J. Dewar (*Practitioner*, May, 1883) calls attention to the use of liquid extract of ergot in whooping cough, of which disease he believes it to be the best and safest of all remedies. Dr. Griefenkel (*Edinburgh Med. Journal*, 1863) reported the case of a lad, six years old, who was cured of whooping cough in eight days. The *Medical Digest* reports the case of a child of eighteen months, not progressing well under the belladonna treatment, was vastly relieved after a few 5 minim doses of Battley's liquid extract of ergot.

PINS AND NEEDLES IN THE HUMAN BODY.

DR. PERGAMI, of Crema, reports (*Gazzetta degli Ospitali*, December 24th, 1882) the case of a girl, aged eighteen, from whose body he removed twenty-four pins and needles—ten of them from the right breast and six from the left one. The patient admitted that she had introduced ten of the foreign bodies, but insisted that fourteen had penetrated accidentally, a statement having no claim to acceptance under the circumstances. Dr. Pergami cites the case recorded by Ferrario, who, in 1829, extracted from a female patient, in the great hospital at Milan, 255 needles, which the woman confessed she had herself introduced into her body. Some English and American cases exceed the number of needles, and in an Italian case, reported by Biffo, an insane woman introduced a needle into the heart, where it remained, transfixing the left ventricle for two years. The patient died from an affection not connected with the heart.

ARSENIC IN LEUCÆMIA.

Warfvinge (*Nordiskt Medicenískt Arkiv*, Band xiv., Heft 7, 1883) claims that the effect of arsenic in leucæmia and progressive pernicious anæmia are marked. He reports two cases in which the disease is checked and the patients are progressing favorably but slowly.

A SINGULAR EFFECT OF CORROSIVE SUBLIMATE, first observed by Salkowski, has recently been confirmed by Prévost and Trutiger, of Geneva (*Lancet*, April 14th, 1883), who have found that it causes the lime to be removed from the bones to the extent of 2 to 4 or sometimes 8 to 10 per cent and to be deposited in the cortical substance of the kidneys, so that the kidney appears calcified, while the bones, at least in the case of rabbits, become so altered that the epiphyses of the long bones are at length movable on the shaft. This decalcification takes place to the greatest extent when the doses of the poison are such as to cause death in three or four days, but are too small to kill in twenty-four hours.

PROGRESSIVE GENERAL HEMIATROPHY.

Dr. Henschen (*Nordiskt Mediciniskt Arkiv*, Band, xiv., Heft 7, 1883) reports a unique case of progressive atrophy of the left side of the body, accompanied by hemiatrophy of the face and arthropathies.

ICE IN INCIPIENT MASTITIS.

Dr. O'Hara (*Medical Times*, May 6th, 1882), after citing cases in which ice bags were of marked benefit in checking incipient mammary abscess, says: " What is a better means of compression than ice? Ice carries its compressing power deep into every cell and every fibre of the tissue; compression otherwise is only superficial, and cannot go to the intimate depths of every little cell. Compression will not act on the afflux of blood; ice will. Compression is painful; ice, anæsthetic. Sensation is blunted, Pain relieved; an inflamed breast bears badly compression. Ice constringes everything—blood-vessel, nerve-fibre, muscle, and cell, wandering or fixed—and stops the active formation and progression of the leucocytes. It is a simple, easy, efficient mode of compression. Those who use it freely will accord it the merit of being a perfect agent of pressure."

THE OLFACTORY MEMBRANE.

Chrestmas-Dirkinck-Holmfeld (*Nordiskt Mediciniskt Arkiv*, Band xiv., Heft 1,) states that the destruction of the olfactory bulbs causes a degeneration of the olfactory cells of the nasal mucous membrane, the epithelial cells not being attacked except after a long period of time. The olfactory cells undergo fatty degeneration. The process is most rapid in cold-blooded animals. From these changes the following conclusions follow: First, the olfactory cells should be regarded as the true termination of the olfactory nerves; second, that the epithelial cells are not in direct relation with the olfactory nerves.

NEPHRECTOMY.

Dr. Le Quénu (*Archives Générales de Médecine*, December, 1882) has collected one hundred and two cases of nephrectomy. In twenty-three cases the operation was performed for morbid growths, in seven cases for large cysts of the kidney, in twelve cases for hydronephrosis, in sixteen cases for floating kidney, in seven cases for fistula, in fifteen cases for pyonephrosis or pyelitis with or without calculi, in four cases for tuberculosis. Dr. Le Quénu concludes that nephrectomy is an operation not to be compared in gravity with extirpation of the larynx or cancerous uterus. It has this advantage, that in properly selected cases where it is indicated, a cure can be safely predicted. In renal cancer, sarcoma and tubercle, and in fistulæ, whether renal or ureteral, nephrectomy is the only means of treatment. The operation is indicated by cysts, hydronephrosis, pyonephrosis, pyelitis, and in certain renal wounds, but is exceptionally indicated in floating kidney where the intensity of the suffering calls for interference. So far as the operation is concerned, it may be said to have almost attained perfection. Future investigation could only make renal diagnosis more accurate and precise.

UTERINE MYO-FIBROMATA.

Dr. T. M. Drysdale (*Philadelphia Medical Times*) reported a case of uterine myo-fibroma, and called attention to the difficulty and danger, when the tumor is large, of removing the uterine appendages. From his experience in the case, Dr. Drysdale concludes that when the soft variety of uterine myo-fibromata is encountered, the certainty of hemorrhage difficult of control, is added to the other risks of the operation. If the character of the tumor is recognized in time, and the presence of extensive adhesion determined, the safest plan for the operator is to leave the tumor untouched and close the wound. In the discussion of the paper, Dr. Baer stated that the hazard in the operation could not be too strongly expressed, but gave instances of recovery under the most disadvantageous circumstances. In reply to Dr. Baer's questions, Dr. Drysdale stated that ammonium chloride is remarkably efficacious in some cases of hard uterine tumors in reducing the size of the growth. At times it even removes them entirely.

PSYCHICAL BLINDNESS IN PROGRESSIVE PARESIS.

Dr. Steuger (*Archiv für Psychiatrie*, Band xiii.) reports five cases illustrative of the cortical blindness described by Fürstner as occurring in progressive paresis. The condition, according to Fürstner, and other experience corroborates his view, usually occurs after the epileptiform and apoplectiform attacks. The patient can see, but fails to associate the object seen properly. Steuger found in one case, not presenting the phenomenon mentioned, that there were visual hallucinations and hemianopsia. Atrophy of the occipital lobe was found in this case. In the cerebral blindness cases the lesions were too diffuse to permit of localization. If fire be placed before him he fails to associate the sight of it with the idea of burning. The condition is, as might be expected, sometimes temporary, sometimes permanent—the first dependent on vaso-motor interruption of the associations, the last from destruction of the same. In Fürstner's cases one eye only was affected; in Steuger's, both. The pupillary differences found by the two observers are purely coincidental.

PROGRESSIVE PARESIS AND MULTIPLE CEREBRO-SPINAL SCLEROSIS.

Zacher (*Archiv für Psychiatrie*, Band xiii.) reports a case of progressive paresis complicated by mutiple cerebro-spinal sclerosis. He also reports a case in which symptoms of spastic spinal paralysis was present. He regards these spastic symptoms as of cortical origin. He is of opinion that differential diagnosis can be made between progressive paresis with spinal sclerosis and the same without spinal sclerosis by the non-existence of sensory symptoms and contractors in the latter case.

TYPHOID FEVER AND INSANITY.

Dr. W. H. Daly (*Medical News*, January 21st, 1883) reports a case of maniacal excitement coming in a typhoid patient whose temperature reached 105°. The case was clearly not one of delirium. The treatment consisted chiefly in cold baths. The patient recovered after two months' illness. Dr. Campbell (*Journal of Mental Science*, July, 1882) found that typhoid fever favorably influenced the mental convalescence of two patients. That in one patient who had shown no improvement up to the typhoid fever, decided improvement commenced during its course, and the patient completely recovered. In two other cases improvement (doubtful before the fever) commenced during it and proceeded to complete recovery. One case of paretic dementia was improved by the fever. Dr. Monteyel (*Annales Medico-Psychologiques*, May, 1883) finds that typhoid fever is rare among the insane, but that when it occurs it improves the curable cases, but leaves unmolested the incurable cases or makes them worse.

DIVISION OF THE FEMUR BELOW THE TROCHANTERS, PERFORMED SIMULTANEOUSLY ON BOTH SIDES, FOR ANKYLOSIS.

Dr. Jos. C. Hutchison reports in the April number of the *American Journal of the Medical Sciences* for 1883, a case of a boy, aged thirteen years, in which division of the femur below the trochanters was performed simultaneously on both sides, for angular ankylosis of the hip-joints following coxalgia. As the result of the operation, it is stated that the lordosis continues, but is slightly less marked than before the operation. There is some obliquity of the pelvis toward the right side. The lower extremities are straight, or nearly so; the thighs are slightly adducted, especially the right. He often uses a cane, but can get about very well without it. There is no motion at the hip-joints nor at the seat of the osteotomy, but there is considerable increase of mobility in the lower lumbar and sacro-vertebral joints.

This case is especially worthy of note from the fact that the osteotomies were made by open wounds directly to the bone; it was not intended to make them subcutaneous. The osteotome was introduced and placed transversely across the bone in order to divide it, and consequently the external air was admitted directly to the interior of the bone.

This case has a further interest, from the fact that it is the only one in which osteotomy of the upper part of the thigh-bone has been done upon both sides simultaneously. The operation commends itself to the surgeon on account of both its simplicity and safety. The external wound behaves as well and heals as readily as a simple tenotomy; indeed Dr. Hutchison states that he has seen more local disturbance from an ordinary tenotomy than occurred in any of the eight osteotomies that he has performed on the femur.

THE USE OF IODINE AS A STOMACHIC SEDATIVE.

The employment of iodine for the relief of the vomiting of pregnancy has been somewhat in vogue for a number of years. And while the success attending its use has been pointed out with more or less enthusiasm its exact value has never been established.

Dr. T. T. Gaunt (*American Journal of the Medical Sciences* for April, 1883) has for a number of years been employing the compound tincture of iodine in drop doses in nearly all forms of emesis, and reports thirteen cases of the most varied character in all of which vomiting was promptly arrested by the use of this drug.

GASTROSTOMY, ŒSOPHAGOSTOMY, AND INTERNAL ŒSOPHAGOTOMY IN THE TREATMENT OF STRICTURE OF THE ŒSOPHAGUS.

Operations on the internal organs of the body have become much more common than they were formerly, and in recent years the stomach has been very frequently operated on with the view of counteracting the effects of œsophageal obstruction.

Dr. Morell Mackenzie, in the *American Journal of the Medical Sciences* for April, 1883, analyzes the cases of this character which have been already published, and gives an account of two new cases.

He finds that gastrostomy has been performed 81 times, and that death occurred from shock in 27 or in 24.6 per cent.

The advantages of gastrostomy are: First, that it can be carried out with comparative ease; second, that there is very little risk in the steps of the operation itself, especially if done in two acts separated by a proper interval of time; third, that there is almost entire certainty of being able to affect the object aimed at, which is the establishment of an alimentary fistula altogether beyond the seat of stricture; and fourth, that the fistula is hidden from sight. The only disadvantage is that gastrostomy still yields a high percentage of deaths.

Twenty-six cases of œsophagostomy are analyzed; of these, sixteen died within a fortnight, and seven died from shock.

The advantages claimed for *œsophagastomy are*:

1. That it is attended with comparatively little shock.
2. That it facilitates subsequent dilatation of the stricture; while the disadvantages are that the operation is a very difficult one, and attended with considerable danger from its proximity to so many important structures, and there is great uncertainty in any given case whether the opening in the œsophagus can be made below the stricture; and finally a discharging fistula in the neck is a conspicuous disfigurement.

Seventeen cases of *internal œsophagotomy* are analyzed, and the following advantages claimed for this operation:

1. That it is attended with an inconsiderable amount of shock.
2. That if the stricture can be thoroughly divided, gradual dilatation can be carried out, and a cure thereby affected.
3. That the precedure involves no external wound. The disadvantages of internal œsophagotomy are:

1. That it can only be safely performed in cases where it is still possible to pass a bougie.
2. It is often difficult to pass all the strictures.
3. In many cases, the walls of the œsophagus are so thickened that limited longitudinal incision does not relieve the obstruction.
4. The actual danger in the operation is far from inconsiderable.

THE GERMICIDE VALUE OF CERTAIN THERAPEUTIC AGENTS.

Dr. Geo. M. Sternberg, in the *American Journal of the Medical Sciences*, April, 1883, has made a long series of experimental studies as to the germicide value of certain therapeutic agents on various forms of bacterial organisms. In his experiments on the micrococcus of gonorrhœal pus, he found that, in general, those reagents which destroyed the vitality of the micrococcus from pus are destructive of other organisms of the same class; and their relative value as germicides is not changed when a different micro-organism is used as the test of this value. Moreover, the reagents which were found to be practically valueless as germicides in the first series of experiments, *e. g.*, ferric sulphate, sodium sulphite and hyposulphite, boracic acid, etc., proved to be equally without value when the test was extended to other micro-organisms of the same class. But the reagents found to possess decided germicide power have, in some cases, a different value for different organisms. In other words, the vital resistance of different bacterial organisms to the reagents in question is not in all cases the same. Nevertheless, the *comparative* germicide value of the reagents tested is the same for the several test-organisms, and, allowing certain limits for specific peculiarities, it is safe to generalize from the experimental data obtained in the practical use of these reagents as disinfectants. But it must be remembered that the resisting power of reproductive spores is far greater than that of bacterial organisms in active growth (multiplication by fission), and the data obtained for the latter cannot be extended to include the former.

The *antiseptic* value of the reagents tested depends upon their power to prevent the multiplication of putrefactive bacteria, and this is not necessarily connected with germicide potency.

DISINFECTION OF THE STOOLS IN ENTERIC FEVER.

The importance of the thorough disinfection of the stools in enteric fever is, to those who believe in it at all, so great, and its practical results in the control of the extention of the disease are so manifest and direct, that any additional data as to the best methods of employing disinfection cannot fail to be of interest. On the other hand, there are quite as many other physicians to whom the subject appears to have no importance whatever. These latter either do not believe in the necessity of the disinfection of enteric fever stools, or else they regard it as of so slight moment that it matters not practically whether it be attended to or not, or, finally, while professing to recognize its importance, they adopt in practice imperfect or imcomplete measures to accomplish it. Indeed, it may be regarded as the exception to the rule, rather than the rule, both in private practice and in hospitals, to systematically and thoroughly disinfect every stool, even in well-characterized cases of enteric fever. To both of these classes of physicians it cannot but prove of advantage to read the excellent paper on this subject published by Dr. James C. Wilson in the *American Journal of the Medical Sciences* for April, 1883.

He shows that although the nature of the germ that gives rise to enteric fever is unknown, many facts in its natural history are established by abundant proof. Of these, the following have a direct bearing upon this subject:

1. It is invariably derived from a previous case of enteric fever.
2. It is eliminated with the fecal discharges.
3. It is not capable of producing enteric fever at once in susceptible persons exposed to it, but must undergo changes outside the body before it acquires this power.
4. It retains its activity in favorable situations for a lengthened period, the requirements to this end being decomposing animal matter, especially fecal discharges, and moisture.
5. In such situations it is capable of reproducing itself.

These are the facts which indicate with singular directness the true measures necessary to prevent the spread of the disease, the efficient prophylaxis.

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ORIGINAL TRANSLATIONS.

STUDIES IN CLINICAL SURGERY. Hôtel-Dieu. M. L. G. RICHELOT. Strangulated Hernia. Translated from *L' Union Médicale*, June 10th, 1883, by H. McS. GAMBLE, M.D., Moorefield, W. Va.

Gentlemen: Strangulated hernia is a question handled, discussed to satiety, but which is never exhausted. Always grave and pressing, it presents itself at each step before us, and assumes unexpected forms which disconcert us. In spite of all the teachings, it remains loaded down with errors and dangerous practices. How can we cease to talk about it? How can we avoid again referring to laws a hundred times promulgated, to counsels which ought to be superfluous so often have they been repeated, but which broken-down authorities and secular prejudices too often prevent you from applying or even understanding?

I would like, in a few words, to edify you upon the nature itself of strangulated hernia, and to show you how much your conduct at the bedside of the patient is imperiously controlled by a correct and well-digested idea of the disease you have to combat. A man upon whom I operated the 29th of September, eight days ago, is going to furnish me the occasion for doing so; his history will permit me to rectify in the minds of some of you the false or incomplete ideas which the classical definitions of strangulation have given you. Therein is a study of clinical physiology of which modern works have shown the importance, and of which the elements are to-day known to the majority of surgeons; but it does not yet exist, under a synthetical form, either in works on pathology or in the teaching of our masters.

Arthur Petit-Jean, a man 34 years of age, terrace maker, was admitted to the Hôtel-Dieu, Thursday the 28th of September, and assigned to a bed in No. 22 of the ward Saint-Landry. Right crural hernia, of the size of a large walnut; facies abdominal, depression, fecaloid vomiting. According to the account of the patient, the signs of strangulation were of six days' duration.

I will not dwell further upon the details of this picture, now effaced. The few traits which I have just noticed are sufficient to enable you to judge of the situation. In presence of a crural strangulation of six days' standing, even if the symptoms had not been so grave, hesitation was not to be thought of. Never forget that, in a crural hernia well and duly adherent to the ring, after three days have passed by, taxis is a mistake; if it fails, you will have kneaded the intestine without profit; if it succeeds, you have many chances to repent of it, for the intestine, if not already perforated, may be sufficiently diseased to open into the abdomen. This delay once passed, the only course to pursue is to operate without hesitation.

Fortunately, I found an intestinal knuckle in tolerably good condition, simply congested; I had no perforation to treat, nor to ask myself whether I should leave the intestine in the wound; I simply reduced it, I ligated with catgut and resected a small quantity of epiploon, finally I ligated the sac as high as possible, and performed a resection of it. Kelotomy then progressed without any inconvenience, and, under the dressing of Lester, applied in all its rigor, the results of the operation have not been less happy. The next day, Saturday, first dressing; Monday, October 2d, second dressing, ablation of the drainage tube and of the "crins de Florence" of which I had made use to suture the wound. A little serous fluid escapes, but there is not a trace of pus. Third dressing, Wednesday; union is perfect; at the place which the drain has left free there is still a raw surface of a few millimetres. The antiseptic method has given here the best results that could be expected.

But there is a complication which nothing could enable us to foresee. On the second day, our patient had spontaneously an abundant discharge from the bowels, soon followed by a profuse diarrhœa which lasted the whole week. The use of opium after Kelotomy is so invariable a habit with me, that I had never even thought of prescribing it. To forget opium, especially after a prolonged strangulation, to neglect putting the bowel to rest, to suspend reflex actions, to quiet the nervous system, astonishes me as much as to leave a patient without any dressing after an amputation of the leg.

When I saw the diarrhœa establish itself, I repaired the fault that I had committed, but the intestinal irritation was not amended, the symptoms went on increasing in gravity, the patient grew weak, became cyanosed, assumed the choleriform aspect, and yesterday his condition still appeared very grave. After opium and bismuth proved powerless, alcohol and coffee succeeded, however, in sustaining, in increasing his strength ; to-day the scene has changed, the features are in repose, and the expression natural ; I have no longer any doubt of the cure.

Whence came this alarm ? Before discussing the question any further, gentlemen, I do not hesitate to say to you that this profuse diarrhœa had its origin in a reflex intestinal irritation, provoked by the long duration of the constriction, and that it ranks, along with pulmonary congestion and even algidity, among the *nervous phenomena* of strangulation.

Would opium, given the first day, have prevented complications ? I cannot tell, but doubtless they would have been less violent ; it was the time, if ever, to make use of it. Formerly, surgeons gave a purgative after Kelotomy, at the risk of still further overworking an intestine already compromised ; to-day calmness is sought, tumultuous actions are prevented, and no example could serve better than this to set clearly before your eyes the advantages of this practice.

And why did our predecessors trouble so much an organ which has so much need of repose ? It was because they wished before all to re-establish the free passage of fecal matter. Imbued with a false idea, they took the accessory for the principal ; and there, gentlemen, is the deep prejudice from which you are not entirely freed to-day, and which still sometimes haunts the minds of the best surgeons. This idea, that the *retention of fecal matters* is a capital fact, is found in the classical definitions of strangulated hernia, without speaking of the old authors who believed in obstruction from choking up, and did not even know that the intestine was attached to the ring. See what Prof. Gosselin says in a book which, in other respects, has not become antiquated : " Strangulated hernia is a constriction more or less firm, which hinders the circulation of the blood, arrests the course of the intestinal matters, and leads to perforation or gangrene."* Two things are brought to light in this definition : the mechanical lesions of the intestine, and the retention of its contents. But what value can we attach to this retention ? Recall to your mind that a strangulation becomes grave in a few days ; is a constipation of the same duration so grievous ? The sojourn of the intestinal matters, the absence of gaseous emissions may bring on malaise, tympany, but nothing more ; the vomiting itself is not the consequence of it, since it comes on in the early hours of the strangulation. But great reactive symptoms, an intestinal septicæmia of algid form and unusual course, a putrid resorption never seen in other forms of constipation and which should be favored, one knows neither why nor how, by the intestinal occlusion, these are pure hypotheses upon which we ought no longer to dwell. Do you desire a proof of it ? Let us suppose a strangulation ; the operation is performed, the intestine reduced in good condition ; the following days constipation still continues, and you do nothing to overcome it ; much more, you give opium ; the circulation of fecal matters is interrupted as long as you will, and yet the patient is soothed, the temperature is normal, the cure certain. Since all the phenomena of strangulation have disappeared, it is apparent that the retention played no part therein.

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* Gosselin, Leçons sur les Hernies Abdominales, 1865, p. 98

Quite otherwise grave are the disorders which I shall call, without wishing to justify absolutely the use of the words, the *mechanical lesions* of strangulation : perforation, gangrene, escape of intestinal matters, peritonitis. And yet, the sad termination by one of these local complications is only an eventuality. I hardly dare to treat it as accessory, for it is always threatening and of an extreme frequency. Outside of it, nevertheless, the strangulation subsists with its own characters and gravity ; for one dies of strangulation without local disorders and without peritonitis.

It is because, gentlemen, there is in strangulated hernia, besides the retention and the material alteration of the coats, a third still more essential element, *nervous compression.* The abdominal nervous system possesses an extreme pathological sensibility ; the plexus incorporated with the walls of the intestine are the point of departure of reflex actions of variable extent and gravity, and this not only in hernia, but in a number of affections of the digestive tract.

Let us not leave the domain of strangulation : the vomiting, which commences with it and becomes fecaloid in proportion as the matters accumulate, is in the highest degree one of those nervous acts. There are others which M. Berger has noticed in an interesting work : they are cramps, contractures more or less generalized, eclamptic convulsions, cerebral accidents characterized by coma or delirium.

Among these accidents, which are rare, in truth, we will place, if you will, that intestinal irritation consecutive to the operation, that profuse and threatening diarrhœa which we have just observed in our patient, and which is also an uncommon phenomenon. More frequently it is pulmonary congestion which comes on to complicate or even to terminate the scene. But understand well ; outside of all localization, and by no means accidental, but as a standing ground common to all strangulations, a nervous echo is observed associated with the constriction of the intestinal walls, progressive and so much the more threatening as the compression is stronger and more prolonged. This is, *par excellence*, the character of strangulation ; it is through it that the strength fails, that the countenance changes, that the temperature falls, and that at the close of the scene collapse and algidity supervene. The retention of the intestinal matters plays no part in it, and I have told you why ; the mechanical lesions are not responsible for it, for the scene unfolds itself in the very cases in which they do not exist. Listen to the history of two patients whom I saw at the hospital Necker in 1879, while I replaced Broca, and you will be edified :

One of them was operated upon for a right crural hernia, after the lapse of three days, without taxis. The case is reported in the *Union Médicale* of May 31st, 1881. You will see there that it was well for me that I rejected all attempts at reduction ; for, if I had had the misfortune to succeed, I would have returned into the abdomen a perforated knuckle of intestine. Fortunately, the general condition was satisfactory, the pulse full, and the temperature normal. I sutured the perforation, reduced the intestine, gave opium, left the patient in absolute repose and almost without nourishment for fifteen days.

The wound united kindly, the peritoneum remained quiet, and the patient recovered promptly.

The second was a woman 49 years of age, who had suffered for three years with a left inguinal hernia. Admitted a few days before the preceding, she occupied the neighboring bed in No. 5, of the ward Sainte-Marie. The strangulation dated from the 7th of April ; she was operated on the 14th. At this date the vomiting was fecaloid, the pulse small, the extremities cold, the face shrunken, prostration complete. I expected to find grave lesions; there was nothing of the kind. The intestinal knuckle, deeply congested, presented neither perforation nor doubtful points; the constriction of the pedicle was not extreme. I did not hesitate to reduce, and I enjoyed a moment of illusion as to the prognosis. The vomiting ceased, and observe carefully that an abundant stool took place. But the prostration remained the same, no means was capable of warming the patient, and death took place at 4 o'clock in the morning. The autopsy demonstrated the integrity of the intestine, of the peritoneum, and of all the viscera, the kidneys included; there was scarcely a trace of pulmonary congestion, and only at the base.

The comparison of these two patients, whom chance has placed under my eyes at the same time, is it not instructive? In the first, the closeness of the strangulation had brought about, the third day, a complication which but for our assistance would have become fatal, but not the hypothermy and the irremediable depression; it has sufficed, in order to set aside the danger, to relieve the local symptoms. In the other, a constriction not so tightly drawn had not compromised the intestine; but of much longer duration, it had progressively reacted upon the nervous system, and by itself, without auxiliary, prepared the way to death. What was the true cause of this death? It was not the constipation of a week's duration, soon terminated by an abundant stool; it was not gangrene of the intestine or peritonitis, the operation and the autopsy demonstrate it; it was the nervous disturbance which, all local disorder aside, was the natural result of the strangulation, which may continue after tardy liberation of the intestine, and which betrays itself by two words, collapse and algidity.

There has been a great deal of discussion about the causes of hernial algidity. A history like this last singularly illuminates the question, for the absence of all lesion in the abdomen and in the viscera shows us the phenomena of collapse, so to speak, isolated in presence of their cause. The hypothermy, the vital depression has no relation to the pain in the peritoneum; it is not, as M. Verneuil would have us believe, the symptom of a renal or pulmonary congestion, which, in the case of our patient, was entirely wanting. It is, then, in direct relation with the nervous compression of the intestine, which acts upon the centres and thus suspends all the nutritive acts. In strangulated hernia, one often dies of peritonitis, but one dies also from the strangulation, without a word more, algidity, this is strangulation. Gentlemen, if you adopt the preceding ideas, you will decide very quickly as to certain operations which, for being classic, are none the less irrational. What did surgeons do, and what do they often do still, in late Kelotomies where they find themselves in presence of a diseased intestine and that cannot be reduced? To deliver the intestine by incision is the essential point; but why open it largely and make at the first brunt an artificial anus? This practice proceeds from the false idea that it is important to re-establish as quickly as possible the circulation of the intestinal matters. In acting thus, they believe that they are going to the relief of the most urgent symptom; they think they have done all, because they have overcome the retention and prevented peritonitis. And yet, the prognosis of artificial anus following Kelotomy is very gloomy. The patients die most frequently, because the compression of the intestinal walls has continued too long, and because its effects continue after the bowel has been liberated; they die, even when all extension of the inflammation to the peritoneum has been prevented; they die through reflex action, in the collapse and algidity which fatally accompany gangrene of the intestine, that is to say, prolonged strangulation. What deduction ought we to draw for our conduct? If sphacelus of the whole wall is confirmed, if a large perforation is imminent, the stroke of the bistouri does no great harm; but if there is the least doubt about the extent of the gangrene and of the parts which will be eliminated, it is better to leave the intestine to itself, to leave it in the wound without meddling, to perform, in a word, after the manner of a few modern surgeons, among whom I claim to occupy a place, *Kelotomy without reduction.* In admitting that the patient may recover, the division of the stricture will suffice; whether the circulation of fecal matters is slow or not in re-establishing itself through the enlarged ring, you will see the general symptoms amend. And not only you will have avoided pursuing a chimera in uselessly wounding the intestine, but you will be able, from your abstention, to derive a great benefit; in certain cases, you will see the doubtful portions of the intestinal wall continue to live, the perforation delay a few days, then take place in a limited space, at the same time that the wound contracts, granulates, and little by little pushes back the intestine; in short, instead of an artificial anus, you will have only a simple fistule, that is to say, an infirmity less serious and more easily cured.

Another illy-inspired operation, is inguinal enterotomy in internal strangulation. The artificial anus, applied to the different forms of intestinal occlusion, saves patients as rarely as after Kelotomy; and you understand it now without the necessity of insisting upon it. It gives issue to matters, the retention of which is not the cause of the grave and pressing phenomena; what it does then avails nothing. The prognosis depends upon the occlusion itself and upon the lesion which produces it; if the intestine is subjected to a permanent compression, death takes place as the result of the mechanical lesions or of the nervous depression; if the obstacle is removed, but too late, collapse and algidity lead to the same result; if the intestinal knuckle is set free within a useful time, the patient is saved. But, whatever happens, the clearance so much desired plays no part. I am mistaken, it acts sometimes in an unexpected manner: in emptying the abdomen, it modifies the relations and the movements of the bowel, and may thus, in displacing the organs, set free a compromised fold. But this is a very uncertain result, and those modern surgeons are to be praised who, giving the preference to a more rational operation, open the abdomen in order to find the diseased bowel and to treat the lesion directly.

Gentlemen, if I have discussed at length before you the nature and prognosis of strangulated hernia, it was that we might reach a practical conclusion, and to repeat to you once more counsels that you ought never to forget. Recall, then, to your minds, in order to avoid mistakes, that, in this pathological history, there is one fact which dominates all—the duration of the strangulation. The gravity of the symptoms that you will have to combat has no more immediate and more certain cause. The mechanical lesions of the intestine show themselves in very few days, sometimes, even, in very few hours; and therein is a sufficient motive to hasten to intervene. However, the facts which I have related to you demonstrate that certain strangulations may spare the intestinal wall a long time. But what will never fail, if you temporize instead of acting, is the nervous reaction, the depression, the algidity, which will render vain the apparently best-performed and most successful operation. You ought also to be imbued with this principle, that it is necessary to operate at an early hour, to use taxis only with an extreme reserve, and to reject, so to speak, as criminal, all the proceedings by means of which many practitioners seek, even to-day, to elude Kelotomy. Different procedures, injections of morphine are vaunted in the journals; observations are published which keep up the error, and are nothing but bad examples. Be on your guard, gentlemen, against such a noxious contagion. These unfortunate expedients have, it is true, some attenuating circumstances. In the country, without a supply of instruments and without assistants, sometimes without authority over a recalcitrant patient, the physician may find himself reduced to expedients and to half-way measures. I admit it; but let it be well understood that you use expedients when you can do nothing better, and that, performed in time, according to the prescribed rules, Kelotomy is always safe. Dilatory measures may give some success by chance; but the misfortunes for which they are responsible are counted by hundreds.

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ORIGINAL ABSTRACTS.

Belladonna in Intestinal Obstruction.—Dr. Naylor (*Australasian Medical Gazette*, August, 1883) reports the case of a forty-seven-year-old woman who has twice in the last two years had attacks of obstruction of the bowels, the result of constipation, which resisted all treatment (at first by brisk purges, then by oil and enemeta) for nine days and ten days respectively. When the symptoms became urgent and of an inflammatory character, with tremendous tympanitis, he began giving her belladonna extract, with calomel and opium, continuing the belladonna in quarter-grain doses every four hours for two days, when the wished-for result occurred, and the symptoms, which had become very alarming, disappeared very soon. He thinks that the belladonna, by allaying pain and spasm, helps to restore the normal vermicular action of the bowels, or possibly has a specific stimulating action on the muscular structure of the intestines somewhat similar to its action on the iris.

Bromides and Valerian in Epilepsy.—Dr. G. Boyé (*L'Encephale*, Nos. 1 and 2, 1882) states that the following treatment, which is used in Bau's clinic, is warmly recommended: Under the name of double salt, a mixture consisting of one hundred and fifty-five grains of sodium and ammonium bromide, in ten ounces of water, is given in a cup of valerian tea, eight to ten tablespoonsful per diem. At the same time a pill consisting of three-eighths of a grain each of extract belladonna and zinc oxide is given from two to four times a day. Once a month, in robust patients, either drastics (calomel, jalop, aloes, gamboge) or leeches behind the ears are necessary. Improvement is said to be rapid. Skin eruptions and great drowsiness, as so often observed in the treatment by potassium bromide, never occur. This treatment cannot be long prolonged, nor dropped abruptly, but gradually diminished in quantity.

Cardiac Hypertrophy and Renal Atrophy.—Drs. Brigidi and Pacinotti (*Lo Sperimentale*) conclude that cardiac hypertrophy in interstitial nephritis is caused by the limitation of the circulatory field, by the greater functional activity of the remaining renal parenchyma, not yet destroyed by the morbid process, and by, as an accessory element, the irritation of the vessels caused by urinary principles circulating in the blood. While the chemical theory has been seemingly confirmed by experiment (Grawitz and Oscar Israel), these experiments admit of another interpretation. Oscar Israel produced hypertrophy of the heart in rabbits by administration of urea and potash nitrate (Virchow's *Archiv*, 1881). But these, having an elective action to the kidneys, must determine in them a greater afflux of blood than normal, to respond to the irritation of the parenchyma. This afflux of blood must result in greater blood-tension in the renal arteries, which, if the action were long continued, would cause cardiac hypertrophy. In the same way may be explained cardiac hypertrophy after the removal of a kidney; before equilibrium can be established by augmentation in volume of the other kidney, so much time must pass that the heart becomes hypertrophied. The cardiac hypertrophy in pregnancy is, Oscar Israel admits, due to the increased function of the heart itself for the excretion of the materials of organic reduction, increased by the presence of the fœtus *in utero.* The mechanical theory is much more plausible, by which the hypertrophy is attributed to the force which the heart exerts to overcome the resistance produced in the circulation by the great abdominal vessels of the pregnant uterus. Lewinski (*Zeitschr. für Klin. Mtd.*, Band i., p. 501) obtained renal atrophy, and subsequently cardiac hypertrophy after diminishing by half the calibre of the renal arteries, by means of an incomplete ligature. In this case the blood contained 0.039 per cent of urea. Hence the cardiac hypertrophy could not be referred to irritation provoked by excess of urea in the blood.

INFLUENCE OF TREATMENT OF ONE EAR UPON THE OTHER EAR.—Eitelberg (*Zeitschrift für Ohrenheilkunde*, xii., Heft 2 and 3) concludes that: 1. In many cases treatment of one ear causes improvement in hearing power of the other untreated ear, while diminution of the hearing power is very rarely produced. 2. The greatest improvement of hearing in the ear not treated occurred in one-sided acute or chronic otitis media purulenta, with defective hearing in the other side. 3. In binaural disease, when only one ear was treated, an improvement very often appeared in the other ear, not only of the hearing power, but also of the existing subjective noises. 4. In many cases improvement, and even complete restoration, of the hearing power appeared in the ear not treated some time after the treatment of the other ear. 5. In some cases, after a certain time had elapsed, improvement in hearing subsided, and the ear returned to its former condition.

MUSCLE TRANSPLANTATION.—Dr. Helferich (*Medical Record*, July 29th, 1882) recently removed a large fibro-sarcoma from the biceps of a woman, thirty-six years old, and had filled in the space with a piece of fresh muscle from a dog, sewing it in with catgut sutures. Healing took place, and the patient can now bend her arm well. The electrical reactions are also normal. Gluck, of Berlin, confirmed Helferich's account and referred to experiments of his own, showing that muscle can by transplanted.

AURAL EXAMINATION BY THE TUNING-FORK.—Emerson (*Arch. of Otology*, xii., 1.) concludes: 1. Reliance on patient's statements as to *loudness* of tuning-forks, as a test in ear troubles, will lead to error, unless the fork used be taken into account. As a rule, in normal ears high notes are heard louder through aerial conduction, and low notes louder through bone-conduction. This is true, to a limited extent, in disease. 2. The relative duration of aerial and bone-conduction is a better test. In normal ears, in all cases, the tuning-fork is heard *longer* through air than through bone, the proportion being greater for high than low notes ; and for the middle C (c^1) it should be heard about twice as long through air as through bone. Any *marked* departure from this indicates disease. 3. In external- or middle-ear disease this proportion is reduced, and in well-marked cases, average bone-conduction remaining the same or being increased, aerial conduction will be reduced until it becomes equal to or much less than bone-conduction. 4. When bone-conduction is longer than aerial conduction, and yet much less than the average duration of bone-conduction for normal ears, it is an indication not only of middle-ear trouble, but that the nervous apparatus is involved. 5. If the proportion between bone and air remain the same, and the hearing power be much lowered, it indicates probable disease of the internal ear. Air-conduction markedly exceeding bone-conduction, bone-conduction may be entirely lost, and yet air-conduction continue to a limited extent.

ANTISEPTIC TREATMENT OF CORNEAL ULCERS.—Guaita (*Recueil d'Ophthalmologie*, April, 1883) concludes that in perforating corneal ulcers, antiseptic medication by boracic-acid spray and dry salicylated dressings, with an ointment of eserine, produces certain and rapid cure. In corneal ulcers, produced by finger-nail wounds, this medication, with eserine or atropine, gives equally good and sure results, though not so rapid as in the first class of cases. In the sloughing corneal ulcers antiseptic medication gives good results in the milder cases. In severe cases, after Saemisch's incision, it hastens cicatrization, and thus aids in preventing the formation of an opaque staphyloma.

PERIOSTEAL WRIST EXCISION.—M. Ollier, Lyons (*Courrier Medical*, April 29th, 1882), states that preservation of the hand may be safely secured in caries of the wrist through ablation of the carpal bones and resection of the radio-carpal joint. Notwithstanding the numerous bones in the carpus, its many articulations, and the limited surfaces of the bones covered by periosteum, a periosteo-capsular sheath may still be preserved which will be converted into a new fibrous tissue, and in the event of new bone-formation failing, will assure union between the meticarpal bones and those of the forearm, and prevent articulative flaccidity and tendinal displacement or rigidity, which have been the main obstacles in re-establishing the functions of the hands and fingers.

CHANCRE EXCISION AND SYPHILIS.—Dr. Tomaschewski (*Wratsch* No. 16 and 17, 1882) concludes that: 1. The primary induration is the first objective sypmptom of syphilis. 2. Chancre excision does not protect at any time the patients against constitutional syphilis. 3. The wound left after removal of the chancre heals usually by first intention. 4. In the majority of cases the chancre does not return after excision. 5 and 6. Excision cuts short the local sore, but has no effect on constitutional syphilis. 7. The incubation of the secondary symptoms is not sensibly modified. 8. The general character of the gland affections is unchanged. The secondary dermatoses and mucous patches are not influenced by excision. 10. The influence of syphilis upon the general health is apparently the same. 11. The cure of syphilis is not hastened. 12. Relapses are unaffected as to character, intensity, or time of occurrence by excision of the primary sore. On the other hand, Dr. Saccharewitsch (*Wratsch* No. 33, 1882) has performed chancre excision in a few cases with the effect of either preventing further syphilitic manifestations or materially shortening their duration. He therefore recommends this practice in all cases.

THE WATER CRESS IN THERAPEUTICS.—Grellety (*Gazette Hebdomadaire de Medecine et de Chirurgie*) claims that water cress is not as wholesome as is generally supposed, and as it contained a nitrogenous essential oil with allyl for its base, together with a bitter extractive, iodine, iron and phosphorus, it might be regarded as an irritant. Dujardin-Beaumetz regarded it as of value in diabetes and eczema, but the French officinal syrup was a bad preparation having a disagreeable sulphurous odor. Gueneau de Mussy recommended the fresh juice, squeezed out by a press, combined with a little syrup of orange peel. It was the general opinion of the French Therapeutical Society that when old and of rank growth, water cress might act as a stomach irritant, but the young plant was free from such properties.

GLYCERINE IN INFLAMMATORY AFFECTIONS.—Semmola (*New York Medical Journal*) recommends the following formula for the internal use of glycerine: Glycerine, 30 parts by weight; citric or tartaric acid, 2 parts by weight; water, 500 parts by weight. One or two teaspoonfuls to be taken every hour.

"GUAGNASI" RESIN.—Dr. Oxamendi (*Cronica Medico-Querurgica de la Habana*) has had good results from a cathartic resin obtained from Lætia longifolia, called "guagnasi." He gives the following mixture: Guagnasi resin, 25 grammes; alcohol, 250 grammes; essential oil of citron and of orange, 5 drops each; 5 grammes of this are given in two teasponfuls of syrup.

NAPHTHALI.—Rydygier (*Berliner Klinische Wochenschrift*, April 16th, 1883) has had favorable experience with this agent, and accounts for the different results by different applications. He applies it in fine powder, covers it first with gauze and cotton soaked in a corrosive sublimate solution, and then with parchment paper, or other water-proof material. Thus employed, its asserted disadvantages do not appear. It is somewhat irritant when mixed with the secretions of the wound; yet not to any great extent, for in a successful hysterectomy he applied three drachms to the wound, and several tampons in the vagina, leaving them there for seven days. A little vaseline prevents irritation. It is free from the poisonous action of carbolic acid and iodoform, and is exceedingly cheap, especially as compared with the latter. It must be obvious that the use of the corrosive sublimated cloth affects the validity of Rydygier's results.

GALIUM APARINE IN CANCER.—Dr. C. Boyce, of Maidstone, Eng. (*British Medical Journal*, July 7th, 1883), believes that *Galium aparine* may be used with benefit in cancer, given internally and applied locally. The juice of the fresh plant, expressed after macerating, should be given twice daily by the mouth, in five-ounce doses. The cancer should be smeared at the same time with a juice ointment. Over the ointment freshly bruised leaves should be frequently applied. Diet must be simple, and the state of the bowels carefully attended to. This treatment, *if persisted in*, will gradually decrease the size of the cancer and lessen pain.

LUETIC IRITIS FROM AN ORAL CHANCRE.—Dr. J. J. Chisholm (*Maryland Medical Journal*, June 15th, 1882) reports syphilitic iritis from an oral chancre. The patient, a modest young lady, was unable to determine when or how the chancre had been contracted. It is by no means improbable that kissing a syphilitic child was the origin of the disease.

VERATRINE IN ALCOHOLIC TREMOR.—Dr. Féris (*Progrès Médical*, July 19th, 1883) states that tremor dependent on alcoholism and allied nervous tremors or consecutive to fevers, disappear under the influence of veratrine given in two milligramme doses *per diem* in pill form. The effect is immediate, but treatment should be persisted in for ten or twelve days for the result to be permanent.

QUININE IODATE AND BROMATE.—Dr. C. A. Cameron (*Dublin Journal of Medical Science*, June, 1882) believes that these two drugs are remedies of value. Quinine iodate has been found by Drs. Gordon, Porter, Tweedy and others of marked value in ill-conditioned syphilis, and in certain neuralgias and pneumonias. It has been given in drachm doses in pneumonia. Bromate of quinine has been found of value in hystero-epilepsy and in certain allied conditions in two-grain doses.

CARDIAC NERVE CHANGES IN HEART DISEASE.—Pujatin (*Virchow's Archiv*, Band xci.) finds that in chronic affections the nerve ganglia are affected by an extension of the inflammatory process. In early and relatively slight disease the changes are restricted to hyperæmia and granular degeneration. In chronic and extensive cardiac affections, evidences of interstitial inflammation resulting in proliferation of connective tissue existed, while the ganglion cells were fatty and pigmentarily degenerated. The ganglion cells, in one case, were entirely destroyed with calcified tissue between them. Aside from local aortic and cardiac disease ganglionic changes in the ganglia may be the result of chronic constitutional disease (syphilis). These lesions are not without influence on the heart's physiological activity. Many of the functional disturbances, and even paralysis of the heart, when fatty degeneration is not present, can be explained. Some forms of angina are referable to the same cause. Uskow has studied the cardiac nerves in hypertrophy associated with chronic interstitial nephritis. He found that with the growth of muscular tissue the nervous medullary sheath was lost, and nuclear proliferation began. Should acute disease supervene, then the changes in the affected nerves are of the nature of an acute parenchymatous inflammation. In nerve cells lying in course of the fibres, as well as those of the septum atriorum, the changes were confined to thickening of the capsule and nuclei increase. The protoplasm itself was not affected. It is by no means improbable that these lesions are the secondary results of bio-chemical nerve changes, the initial causes of cardiac affections.

HOT WATER IN BLENORRHAGIA.—Dr. G. H. Picard, Topeka, Kansas (*Medical and Surgical Reporter*, January 14th, 1882), claims very good results from the treatment of blenorrhœa with hot water in the following way: A small-sized bulb, tipped catheter is inserted into the urethra so that the bulbous extremity occludes the mouth of the bladder. The free extremity of the catheter is connected by a rubber tube with an elevated vessel containing the hot water. The water finds egress through an opening between the small-sized catheter and the urethra. The temperature of the water should at first be about 90° F., gradually increased with tolerance to 100°, or even to 115° F. Two sittings of at least fifteen minutes each are required. This treatment might be advantageously combined with local medication by medicating the water. So combined, there is but little doubt that by its means many cases of gleet could be avoided.

VACCINIA FROM MILK.—Dr. J. T. Harris, Boston, Mass. (*New England Medical Gazette*, June, 1882), reports the following case: The mother of a seven-months-old babe was vaccinated; five days after this she had "headache, backache, fever and chill." The child this day became restless and feverish. The day following there were a number of little red pimples noticed upon its body. Two days after the child had a temperature of 102°. The fifth day vesicles formed, more or less filled with lymph, some of which were umbilicated. The sixth, seventh and eighth days the eruption became more or less confluent. By the seventeenth day the eruption had disappeared, leaving some pitting. Dr. Harris considers the case one of vaccinia produced through the milk. The crucial test of inoculating from the vesicles was not made. It is by no means improbable that the eruption was only the result of digestive disturbance produced by milk given by a mother suffering from fever, particularly as the child is said to have been eczematous.

Abscess Discharging through the Urethra.—Dr. Osgood (*Boston Medical and Surgical Journal*, May 24th, 1883) reported the case, a woman's. There were pain and tenderness in the neck of the bladder. The urine was diminished and contained oxalates and blood corpuscles, but no more albumen than accounted for by the blood. The patient had had cystitis, which had been treated with boracic acid and opium. Vomiting had existed all winter, but was the only symptom pointing toward uræmia. There was constipation, with a dry, glazed tongue, and no œdema. The uterus was displaced forward. Warm water injections by the husband two or three times in twenty-four hours gave relief, and an old abscess broke, discharging offensive pus through the urethra. Pain followed this, first in the neighborhood of the left kidney, then of the right. Additional treatment was jaborandi, with external heat, the drug not producing a moist skin, although pushed to salivation. The urine became clear, and the patient is regaining health.

Asiatic Cholera.—The treatment of the algid period of this disease is often an interesting problem, involving the patient's recovery. Tide the patient over this stage, and he recovers. Dr. L. E. Dupuy (*Le Progèrs Médical*, January 6th, 1882) claims that for this purpose there is nothing equal to hypodermic injections of sulphuric ether. According to him, the temperature following the injections of sulphuric ether is as much elevated as it had been previously lowered. This result is obtained through cardiac stimulation. The idea of thus using sulphuric ether is not entirely new. Warrington-Howard (*Medico-Chirurgical Transactions*, 1872) had previously had good results from a similar use of this drug. Dr. Dupuy's researches are much more systematic and exact, and would seem to indicate that this procedure would prove of value in many conditions of collapse where cardiac stimulation was necessary. It is by no means improbable that quebracho would prove of service in the same stage.

Strumous Ophthalmia.—The physician is often called upon to treat cases of strumous ophthalmia, children of a strumous habit who suffer with sore eyes, and perhaps other evidences of scrofula, but in which the unpleasant condition of the eyes is the most prominent symptom. The lids are red and swollen, with numerous and frequently recurring minute pustular collections about the lashes, with some conjunctivitis and photophobia, etc., not only giving the eyes a very unpleasant appearance, but also preventing the patient from using them with any degree of comfort. In these cases, in addition (*Canadian Medical Record*) to local treatment, the internal use of calcium sulphide is almost a specific. The good effects resulting from the use of calcium sulphide in scrofulous ulcers, suppurating glands in the neck and similar affections in connection with this strumous diathesis, have been known for some time, this use of the remedy having been brought to the attention of the profession by Dr. Sydney Ringer; but of more recent date it has been recommended in cases of blepharitis and strumous ophthalmia.

THE USE OF DIALYSATES.—Dr. C. J. Lewis, Chicago (*Medical Review*), has had exceedingly good and prompt results from aconite, opium and belladonna dialysates prepared by McIntyre and Embury, New York City. He treated successfully three pneumonias in four, six and seven-year-old children with aconite and opium dialysates, without other remedies than magnesium sulphate to keep the bowels open. The dose of the following given to each child was about the same: He added to forty drops of aconite dialysate, twenty drops of opium dialysate, and gave of this mixture one drop in a teaspoonful of water every hour until respiration was easy, skin moist, pulse nearly normal, and the patients somewhat drowsy. The rapid and painful breathing, high pulse, hot and dry skin gave place to this favorable condition in about ten hours. Notwithstanding the marked action of the medicine, it nevertheless was a kindly one, and so favorable at this period that he withheld further administration for six hours, after which, he continued the dose at a two hours' interval. All evidence of pyrexia was removed and health restored in one in four days, and in two cases in six days. He has administered aconite, opium and belladonna dialysates to two cases of diphtheria and one case of descending diphtheria. He combined the three dialysates in the following proportions: Opium, one part; belladonna, two parts, and aconite, three parts. Dose: One drop every hour in water, giving twelve to sixteen doses daily. Time of cure, one week. He gave half a drop of the above mixture of opium, aconite and belladonna dialysates in a teaspoonful of water every hour to a case of catarrhal pharyngitis, and one case of follicular tonsillitis, with marked beneficial results. The age of one was two and one-half years; the other, four. Eight doses a day was all the children could bear, the belladonna drying the fauces and interfering with vision.

PHYSICAL PROOF OF CHASTITY.—Dr. Bowditch (*Boston Medical and Surgical Journal*, May 24th, 1883) cites the case of a young woman accused of unchastity. She came to him with her accuser to have an examination made which should demonstrate that she was intact. After some consideration he declined to make any examination, since it was impossible by local examination to determine the question at issue. The presence or absence of the hymen did not settle the question either way. Coitus may have taken place or been attempted while the hymen remained intact. On the other hand, its absence may be due to accidental rupture from various causes.

CARBOLIC ACID IN YELLOW FEVER.—Dr. Lacaille (*La Independencia Medica*, January 28th, 1882) has secured good results in twelve cases of yellow fever from carbolic acid given *per orem* and hypodermically. In one case black vomit appeared, but it recovered under carbolic acid. Dr. Lacaille claims that the treatment has proven successful in three days, but may have to be continued seven.

SULPHUROUS ACID IN TYPHOID.—Dr. J. Burney Yeo (*Practitioner*, June, 1882) has tried sulphurous acid in typhoid fever with good results on the temperature curve, but without affecting the other symptoms. The drug was given in half drachm doses every four hours. He concludes that "sulphurous acid seems to be a drug of some value as an antipyretic in typhoid fever, but upon the intestinal lesions it is without influence, like other remedies."

FUNCTION OF NERVE CELLS.—Dr. S. V. Clevenger claims that: 1. The nerve cell is born of the original protoplasmic cell and is highly productive of granules, which form axis-cylinder processes and nerve fibres. 2. Fibres may be, and are produced primitively independent of nerve cells. 3. The brain and spinal cord of the embryo is one large nerve cell. 4. The nerve cell is not necessary to nerve action, for in the lowest vertebrates there may be an utter absence of such cells, the fibres alone affording passage for this form of molecular motion. 5. The principle function of the nerve cells appears to be histogenetic. It is engaged actively in producing pigment substances which among cœlenterates and above these it is often directly metamorphosed into peripheral sense organs, such as the eye and ear terminals, tactile bodies, etc., and containing granular molecules rapidly being thrust from the cell body in the form of processes which intermingle with the nerve fibres and contribute to their structure if they do not actually resupply all axis cylinders. 6. It would seem most likely that the main, if not the only true, function of the nerve cell wherever situated, or regardless of its form or size, is to reproduce nerve fibres, which go to indicate fibres already laid down and sufficient for lower automatic animal existence.

SUPPURATION FROM CALCIUM SULPHIDE—Dr. W. T. Alexander, New York (*Archives of Dermatology*, January, 1882), calls attention to certain effects of calcium sulphide not noticed by any authority, except that somewhat apocryphal one, Hahnemann, who claims that taken internally calcium sulphide may cause the formation of vesicles, pustules and furuncles. Dr. Alexander has observed three cases in which calcium sulphide taken internally for acne produced furuncles and suppuration that markedly improved when the remedy was discontinued. Dr Alexander very properly refers this suppuration to a special idiosyncrasy in the persons taking the drug, and does not see in it any evidence of the so-called homœopathic law that remedies which relieve given conditions are capable of producing these in healthy persons.

CURIOUS MALINGERING.—A surgeon of the Out-Door Department of Bellevue Hospital cut off the fingers of a professional beggar under the following circumstances: A stout, round-faced man, about twenty-five years old, came here to get a finger amputated. The finger was gangrenous, and had the mark of a string on it close up to the knuckle. Not long afterward he came again to get another finger cut off that had been made to mortify in the same way. He came again and again, until all his fingers on both hands were amputated, except a thumb and forefinger, which he reserved to hold up his cap. A boy who accompanied him once or twice, said he had seen him tie strings around his fingers. He has been seen several times begging in the street. He goes around with another man, who wheels about a hand-organ. His part is to hold up his stubs to excite pity, and screw up his face to give it the appearance of being pinched by poverty.

CHANCRE ON THE LOWER EYELID.—Mr. Wherry (*British Medical Journal*, January 28th, 1882) reports the case of a shepherd, aged twenty-three, who had on the conjunctiva of the right lower eyelid, a little to the outer side of the centre, an ulcer with an indurated base. Other than marked chemosis, the eye was healthy. The submaxillary lymphatic glands were large and hard. No history of the mode of infection was obtained. Secondary symptoms presented themselves five weeks after initial symptoms began. A similar case is reported by Berkeley Hill. It is suggested, as a possible explanation, that a foreign body entering the sulcus between the lower lid and the sclerotic, is apt to remain.

MERCURY HYPODERMICALLY IN SYPHILIS.—Letnik (*Centralblatt für Chirurgie*, No 8, 1882) claims the following advantages from the hypodermic use of mercury: *Accurate dosage.* Frequent bathing and change of clothing in charity practice is not an absolute necessity. The *rapid disappearance* of *new* syphilitic symptoms, often after six or eight injections. The patient can continue his vocation. *The entire treatment is shortened. Stomatitis is very rarely observed.* The general condition does not suffer, but improves materially, and interference with the diet is not required.

ERUPTION FROM PODOPHYLLIN.—Dr. G. A. Winterburn (*Medical Tribune*, March, 1882) states that the workers in the resinoid podophyllin are liable to a scrotum eruption. How far this is due to uncleanliness remains to be determined.

BELLADONNA IN GONORRHŒA.—Dr. J. Numa Rat (*Lancet*, April 7th, 1883) has treated mild gonorrhœa successfully by smearing the penis with belladonna ointment, and enveloping it in a cloth smeared with the same. No injections were used nor internal medicine employed, and the cure was complete in a week.

GLYCERINE IN SKIN DISEASE.—Desguin, Anvers (*Journal de Médecine d' Anvers*), has used glycerine internally in certain skin diseases with marked success, especially in acné punctata and the furuncular diathesis. He commences with four drachms daily, and gradually increases the dose. The secretion of the cutaneous glands, thick and irritating in these dermatoses, becomes more liquid. Cutaneous irritation is notably lessened. During convalescence from scarlet fever, desquamation is facilitated.

SELECTIONS.

GOOD REMEDIES—OUT OF FASHION. By CHARLES J. HARE, M.D., Cantab., F.R.C.P., President of the Metropolitan Counties Branch of the British Medical Association; late Professor of Clinical Medicine in University College, London, and Physician to University College Hospital, etc.

My first duty, which is a duty and a pleasure alike, is to thank you most sincerely for the high honor and distinction you have conferred upon me in electing me President of this most important Branch of the British Medical Association. But while I feel the honor deeply, and know that it is one which might well be coveted by the most distinguished members of our profession—as, in fact, it has already been held by many such—I am quite sensible that the position brings with it deep responsibilities, and that it behoves me to take good heed, not only that the welfare of the Branch suffer no deterioration during my term of office, but that, on the contrary, the ensuing year should be marked by at least the onward progress which has been the characteristic feature of this part of the Association under the guidance of my predecessors.

The sketch which has this afternoon been given you of the work of the past year proves how many and how varied are the subjects which come before, and which are influenced by, this Branch ; and though it has been the happiness of our friend here—my predecessor—to conduct not a few of these to a happy termination, some of them are of such a nature that no single year of office can possibly inaugurate and complete them. Great honor be to him for the devotion, as regards the time and labor, which he has given to the duties which a year ago he undertook ; to the judiciousness with which he has presided over numerous most important meetings of the Branch ; and to the great success with which he has conducted its affairs.

It is no small honor—it must be a source of high gratification—to him, during his tenure of office, to have furthered the progress of medical reform, to have established two new districts in connection with our Branch, and, above all, to have presided at the inaugural meeting establishing the system of the collective investigation of disease—a magnificent success, the influence of which will go on still extending, and which will never be forgotten by those who heard or have since read the masterly and telling addresses on that occasion—I ought rather to call them orations—of Paget, of Gull, and of our most esteemed vice-president, Professor Humphry.

But a position of this kind induces—nay, compels—me to pause and consider. This is, possibly enough, the last presidential chair I shall be called upon to fill, and my mind very naturally reverts to the time when, then a very young man, and, indeed, too young for the honor, the kindness (and I suppose the wish to encourage me) of the members of the Harveian Society made me their president. This was so long ago as the year 1847, and the space of time thus bridged over amounts to fully more than five-and-thirty years. At that time, Sir Henry Holland, and Chambers, and Bright, and Williams, and Latham, and Addison, and Graves, and Stokes, were in the full career of medical practice ; the classical lectures of Watson were the text-book—and a glorious one it was—on medicine ; and at that time the clinical lectures of Todd, which were destined to produce so great a modification in treatment, were a thing of the future. Brodie, and Fergusson, and Liston, were among those who divided between them the surgical honors of the metropolis.

It is excusable, perhaps, if one loves to recall the names and the memories of those to whom one was indebted for one's knowledge in the earlier periods of professional life ; and some of these names, and those of Quain, and Sharpey, and Graham and others, involuntarily rise up on an occasion of this kind. But as there were brave workers then, so there have been ever since, and every branch of our profession has made during the interval enormous strides forward, enormous advances, of which the gains have been especially in regard to definite and well-based knowledge —to positiveness ; not that vague theories have not cropped up to live for a while and then to die, as such theories always do, sooner or later ; but still the solid matter-of-fact additions to our knowledge have never been excelled, and have scarcely been equalled, in any similar period of bygone times.

All this is fully and frankly admitted, and I bow to and reverence the skill, and talent, and industry, and patient labor which have produced results so brilliant. But, unfortunately, there is no unmixed good ; and the very exhaustive way in which some diseases have been studied, and the widespread manifestations which they have been shown to have, lurking under and explaining symptoms and conditions with which they were before never suspected to be connected—all these circumstances have led men to attribute thoughtlessly to such causes almost every ache and pain and symptom with which they meet. You will, of course, associate with the most learned investigations into gout and syphilis the names of two of your former presidents ; and their admirable works on these subjects have not only made the whole history and all the conditions of these diseases the common property of all medical men, but have so impressed men's minds—and I think their imaginations also—that they see these diseases everywhere, and loosely attribute to one or the other almost every pain—certainly every pain not otherwise easily explained—with which they meet. If a diseased condition be relieved or cured by iodide of potassium or by mercury, such persons can never be persuaded, whatever the proof to the contrary, that syphilis is not at the bottom of the affection ; and if you have pain or ache nowadays, or an eruption, or bronchitis, or anything else whatever the matter with you, it is, with such people, beyond doubt "gouty," the gout being, according to circumstances, latent or irregular, or metastatic, or Protean, or something else, but at any rate the patient is "gouty." Gentlemen, at present "gouty" is a fashionable word, the use of which at least sounds well and saves trouble, even if its careless use not unfrequently throws erroneous light upon a set of symptoms, and upon many a case of disease.

But sometimes with us not only do things come into, but they also go out of, fashion ; and, remembering as I do the days of yore, I think that, deluged as we now are with so-called new remedies, such as hydrastin, iridin, sanguinarin, baptistin, glonoin, gelsemin, euonymin, mucuna, muscarin, the quack cholordyne (of which I never in my life prescribed a single dose), eucalyptin, thymol, ingluvin, asclepedin, and a host of others, the advertisements of which fill the pages of our journals, I think that some valuable plans of treatment have been allowed to fall into disuse, and that there are such things as "good remedies out of fashion." May I tell you my views on some of these ?

Some whom I address will, without doubt, say to themselves, especially as regards certain points of practice which I urge, "Why, under such circumstances, that is exactly what I should do myself, and what has always been my practice." To each of those, I would say : "My brother, I am delighted and thankful to have my views confirmed by your experience ; help me to spread more widely the principles and the practice which I believe to be fraught with good, and may we long be workers together in the same harvest-field." But I know too well that I am addressing some, especially the younger members of the profession, who will look upon these things as some strange and new doctrine, or as prejudices clinging to me from my earlier days, or as antiquated customs of which the progress of modern science has shown the futility or the wrongness. To such I would say, "My brother, take my words only as suggestions ; weigh them impartially, and think these matters over from a different standpoint from that from which you have been accustomed to view them. If, then, you do not see as I do, you will, I know, look kindly on my convictions, and believe that, like yourself, I desire the welfare of those placed under our care. But if you should concur in my views, you will find yourself armed, I believe, with weapons which, if they have thus far lain by idle, will be found, when drawn from the scabbard, to be made of true and trusty steel."

Let me premise, however, with reference to fluctuations in plans of treatment and of diet, that the period to which I have alluded has seen the rise and the subsidence of the wild mania for giving alcohol in some form or other, in almost every kind and in almost every case of disease, and is now witnessing the rising into favor of the more rational plan of giving nourishment extensively in the mild and bland, and usually easily digested, form in which Nature provides it—milk.

I well remember the time, twenty to twenty-five years ago, when alcohol-giving was so rampant, that it was difficult to see a patient who had been a few hours in the hospital before the time of one's visit, who had not already been put, almost as a matter of course, by the physicians or clinical assistant, on three or four ounces of brandy, or on double that amount of wine; and because I would not give way to that alcohol-craze, and ventured to show that many serious diseases might be cured with the administration of little or no alcohol, I was considered (I well remember) the most unorthodox of teachers, if not something worse than that. I have always held, and still hold as firmly as any one does, that alcoholic stimulants are in some cases most valuable remedies, and I would not practise my profession if I might not use them when and where I deem them needful. But I always preached against the foolish, and I would almost say wicked, use of alcohol which was common some years ago; and, over and over again, I have said, in my clinical lectures at that time, that the students I addressed would live to see the day, even if I did not, when the pendulum of opinion would swing in the opposite direction, and when alcohol would be decried almost as much as it was then being overpraised. It is not always, gentlemen, that a prophet lives to see so completely the fulfilment of his own sayings when they foretell a revolution so complete. May a calm judgment guide herein our noble profession, and, while we give up the routine and indiscriminate use of the remedy, may we better know how and when to employ it for the benefit of those whose lives are in our hands!

It is within the knowledge of all of us, then, that a most marked change has, comparatively recently, taken place as regards this most important question of alcohol-giving, and in the belief as to its necessity: our every-day experience, the tone of medical debates, the common current of conversation, all bear evidence in the same direction; but it is almost impossible to treat evidence of this kind, or even the results of private practice, statistically, or to reduce them to a clear tabular form; but it occurred to me that the hospitals might give more definite information. I applied, therefore, to the secretaries of the large metropolitan clinical hospitals, and have received, from all excepting two, replies containing most interesting, important, and valuable facts, to select and extract which from their books must, I am sure, have cost these gentlemen no small amount of time and trouble.

I thank them most sincerely for their courtesy, and have pleasure in thus publically expressing my obligations to them.

It is not long ago that, in a very urgent case of bronchitis, I advised the administration of an EMETIC; when the gentleman whom I had been called to meet in consultation said, "Why, I never gave an emetic to an adult in my life." In former times, it was not unusual, on the contrary, to commence the treatment of many diseases with the administration of a dose to procure vomiting; and although the remedy might then be given sometimes indiscriminately and according to routine, only those who have seen the effects of emetics, properly and judiciously given, can conceive the beneficial effects they sometimes produce. In the early stage of an attack of croup, it was by no means unusual to give an emetic of tartarized antimony or of ipecacuanha ; and it is in accordance with the recorded experience of some of the best authorities and most practical men, and quite consonant with my own experience, too, that symptoms which presented the most certain augury of a severe attack were by these means cut short, the hoarse voice resumed its natural character, and the feverish symptoms were in a few hours relieved. I know quite well that a great fear is entertained by some as to the depressing effects of emetics ; but the fear is theoretical, and not practical, and those who have had most experience in the administration of them best know how groundless the fear is. In diphtheria, too, I have seen the false membranes which are out of the reach of local remedies, and which the patients cough and cough in vain, and utterly exhaust themselves to get quit of, readily brought up by the action of vomiting, to the immense relief of the sufferer.

In suffocative bronchitis, the effect of emetics is sometimes magical, and by their administration in such cases not only is immense relief given, but I verily believe—I am certain—that lives are saved. You are called to a patient who has been ill a few days, with increasing dyspnœa ; she is sitting up in bed (I draw from nature), for to lie down is impossible ; she is restless, and tossing about ; the lips, and indeed the whole face, blue ; the eyes watery and staring ; the pulse quick and small ; the cough constant ; the expectoration semi-transparent and tenacious ; over every square inch of the chest, front and back, from apex to base, you find abundance of rhonchi ; moist, sonorous and sibilant ones in the upper part of the lungs, and muco-crepitant or mucous *râles* toward the bases. Ammonia and stimulants, right and good in their way perhaps, in such a case are too slow in their action ; the patient is, in fact, more or less slowly, more or less rapidly, suffocating. An emetic of twenty-two grains of ipecacuanha in an ounce of water is given ; in ten or fifteen minutes, the patient vomits and brings up a huge quantity of that tenacious mucus, and the whole aspect of the case is altered ; the distressed countenance is relieved ; the breathing is at once quieter ; and the patient is able for the first time for the past twenty-four hours to lie moderately low in bed, and to get some sweet refreshing sleep. The patient is, in fact, rescued from the extremest peril, and in this case, and in many similar ones too, I believe, from otherwise most certain death. Of course, in such cases the emetic is not given for its effect on the stomach, but for its collateral effect in mechanically clearing out the enormous amount of secretion which acumulates in the bronchial tubes, and which the patient is otherwise quite incapable of getting quit of ; and thus the half-choking, almost asphyxiated, condition is changed for one of comparative comfort, and time is gained for the action of other appropriate remedies. No doubt the secretion may, and often will, accumulate again ; and I have not hesitated again in bad cases to repeat the same good remedy ; but it is a fact, and a very positive one too, that, quite contrary to what those who have had no experience in the plan suppose, the system rallies instead of being more depressed under the action of the remedy ; and, in the language of one who had had thirty years' experience in the beneficial effects of ipecacuanha in emetic doses, it is, so administered, "a powerful restorative in some cases of exhaustion and sinking." (Higginbottom, *Lancet*, 1845, June.)

My object is not to write an essay on these remedies, nor even to name all the cases in which they may be useful ; such as where certain poisons have been taken, or where it is certain that a mass of hard and non-digested food gives rise to intense cramp and horrible pain in the stomach. In such cases, I have no doubt any one would use so obvious a remedy, notwithstanding the statement of my friend, above alluded to, that he had never in his life given an emetic to an adult. But I would wish to mention the great use of which they are in the commencement of the treatment of many (perhaps most) cases of delirium tremens; for they often themselves quieten the patient, and even produce, after their immediate effect, sleep; while I firmly believe they materially curtail the duration of the disease, and render the effect of the other remedies more speedy and potent. It is consonant with experience and reason, that the absorption of remedies from a well cleaned-out stomach should be more rapid and efficient than when the stomach is full of half-digested food, and the coats covered with a morbid tenacious mucus; and, as a matter of fact, I know that, when opiates given largely have failed to produce the longed-for sleep, a moderate dose has had the desired effect after the free action of an emetic.

There is one form of stomach-affection or derangement, accompanied with much nausea and frequent vomiting, which is relieved, or rather cured, by the action of an emetic, with a rapidity and a certainty which attends no other remedy or remedies, or plan of treatment whatsoever. A lady, aged 34, moderately stout, not specially unhealthy-looking, but with her complexion far from clear, had been ailing with various symptoms of indigestion for a couple of months; and for that time had been under the care of two medical men. She had considerable pains, of dull, heavy character, both at the epigastrium and between the shoulders, and these had rarely left her during her illness; but the discomfort was notably augmented after food of any kind. The eructations preceding the sickness were often very abundant. She had scarcely any appetite whatever. She had much and constantly recurring nausea, and, for nearly a month, had *not passed one single day without vomiting.* The sickness often came on suddenly, sometimes after food, but very frequently when no food had been taken. She always brought up more or less of a ropy mucus, and very frequently, especially toward the end of the retching, the ejecta were very acid; often the quantity brought up was very small, though the retching might be long-continued. There had been no hæmatemesis, and the vomited matter had not presented any sarcinous characters. I wish particularly to observe, that both the nausea and her headache, which was one of her very distressing symptoms, were always relieved for a time by the vomiting. This "sick headache," though affecting the whole head, was almost always most acute in one or the other temple, where it occupied the space of a half-crown or crown-piece, and was accompanied by a distressing throbbing of the same part. The various remedies she had taken had entirely failed to influence her condition for good, and, so far as her chief symptoms at least were concerned, had been entirely ineffectual. Not to trouble you with a further detail of symptoms, I may add that, on further examination, I satisfied myself that there was no ulceration of the stomach, nor any other organic disease. The renal functions were practically right; there was no extraneous cause to account for the persistent sickness and the other accompanying symptoms. In fact, this fell into the category of cases of which I have seen scores, and which are, doubtless, perfectly familiar to every one here present. Well, under these circumstances, I ventured with confidence to promise her that she should be sick only once more—namely, that evening; and that, on that occasion, the sickness would be of my producing. Accordingly, I prescribed for her an emetic of twenty-two grains of ipecacuanha; and directed that she should take nothing whatever after the draught until she had been at least once thoroughly sick. She was then to drink a tumblerful or two of warm water, which would also before long be brought up, and would thus wash out pretty completely the stomach. An hour after that, food, in the form of boiled milk, might be taken. All this was done. A large amount of the ropy mucus and intensely acid secretion, to which I have already referred, was vomited ; and, though she remained under my observation for about three weeks, she had not one single return of the vomiting. The pain between the shoulders, and that in the head, were removed ; and she was practically cured by that single dose.

Now, in these cases, the sickness, I believe, depends upon the stomach secreting a morbid matter, which, on the one hand, causes fermentation of whatever food is put into it ; and, on the other, by its irritation of the sympathetic system, causes the reflex headache—paradoxically speaking, the patients may be said not to have a headache, but a "stomach-ache in the head." Nature, then, tries to get rid of the irritating secretion, and so causes the patient to vomit. The action is, however, only partially effective ; but, for the time, the patient gets notable relief from all the symptoms, only, however, that they may recur again when more of the ferment is secreted by the stomach, and when fresh food is taken. Now, the emetic does thoroughly and efficiently what Nature for, perhaps, a month past, has been trying to effect ; its action is mainly, in the curative point of view, mechanical ; the stomach is not only emptied of the morbid secretions it contains, but the gastric follicles are thoroughly squeezed out, and, no more ferment remaining, no more sickness occurs. I have cured a vast number of cases (for, as I have said, they are very common) in this way ; the plan is reasonable, and, in right cases, it is very sure. It is not an instance of *similia similibus curantur*, as might at first glance appear to be the case, but exactly the reverse ; if we acted on that principle, we should give remedies to increase the morbid ferment ; but in this we give a remedy which removes the cause, and forthwith the effect ceases. The yeast is thoroughly cleared out of the vat, and new wort being put into it, no longer has the fermentative process set up.

If there be one single remedy which Nature or art has given us more thoroughly, more widely, more universally useful than others, it is OPIUM ; and I could well fill the time allotted to me by recalling to your memory cases in which it was formerly much more used than now, and modes of its administration which are no longer in fashion, yet which were, withal, good. Dover's powder, comparatively rarely prescribed at present, was at one time almost a popular remedy ; and a diaphoretic and sedative dose of it (especially, in some cases, combined with James's powder), taken at bedtime, has, times without end, cut short, in their early stages, attacks of catarrh, which, with all their disagreeables, are nowa days allowed to run their course.

There is in the world a great deal of what I am accustomed to call "needless, useless coughing." Where secretion takes place into the bronchial tubes, it must sooner or later be brought up ; and for this purpose some "necessary" coughing must take place, or the patient will choke. But, both in organic diseases and in slight inflammatory or irritative affections of the air-passages, there is often an immense amount of useless coughing—useless, that is, as regards bringing up any laryngeal or bronchial secretion, and far worse than useless, because it wears out the patient, prevents sleep, and, moreover, increases the condition which gives rise to it, inasmuch as it lets the affected parts have no rest or peace. Now, the effects of opium are both local and general ; and if in mucilage of acacia, or tragacanth, or in glycerine, or with a thick solution of confectio rosæ caninæ, or honey, you give frequently from the one-fortieth to the one-twentieth of a grain of morphia, you not only give a marvellous amount of peace and comfort to your patient, but, where it is remediable, you tend also to cure the disease.* The coughing in pertussis may be similarly relieved.

Where there is lividity of the face, blueness of the lips, etc., from bronchitis, extreme care must be had in the use of opium ; or it had, perhaps, in most such cases, better not be administered ; but there is a form of bronchitis, characterized by special symptoms, into which I cannot now enter, but in which, though the patient has no difficulty in bringing it up, the secretion is very abundant, and produces constant coughing—in these cases, opium, owing to its power of diminishing secretion and allaying the cough, has a very positive and decidedly curative power. And, only to mention one more instance where the use of opium is neglected, I would allude to those terrible cases of cardiac dyspnœa, where rest and sleep for more than a few minutes together are impossible, and where the sufferings of the patient, in consequence, are far more intense than I can attempt to describe. I have seen patients allowed to go on day after day—and, worse still, night after night—in this wretched condition, and without alleviation, when a little opium would, without any danger, have relieved the intense distress, and have given the longed-for rest.

With respect to PURGATIVES, there has not been that extreme variation in practice which has obtained with regard to some other remedies ; but I think, notwithstanding, that the fashion of late years has been to neglect them far too much, although in one form or another they are, perhaps, the most universally applicable, and certainly among the most potent and most useful remedies we possess. The abandonment of their employment is excused, one hears again and again, owing to the fear of their producing "debility."

Gentlemen, I believe that few words in the English language have produced so much harm as this word debility. "Debility" seems to be the *bête noire* of the present medical world. Men speak of it as it were an entity, instead of its being, as in fact it is, an effect, a result ; and it was often to counteract this state that, a few years ago, stimulants were so wildly given. It is disease which produces debility, and if these purgatives remove the morbid state, they often prove the most strength-giving as well as the most health-giving of remedies. "Talk about champagne," said Byron, in one of his letters, "there is nothing which cheers your spirits up like a dose of Epsom salts." And, in a sense, he was right. I would say, "Oh, that men did but know the virtues which reside in three drachms of Epsom salts !" Seriously, however, sulphate of magnesia is one of the best forms of saline aperients, and the old-fashioned stock-medicine of the surgery and of hospitals, the Mistura alba, has more cures due to it than will ever be achieved by a dozen of the new-fashioned remedies which have lately inundated the advertising pages of our journals. I say that Epsom salts have gone out of vogue, but a tacit compliment is notwithstanding constantly being paid to them, for people still find out the efficacy of the solutions which contain them, and they take our old friend in a more expensive form under the names of Friedrichshall, Hunyadi János, and Æsculap mineral waters.

I am quite aware of the experiments by which it has been proven, or said to have been proven, that mercurials are not cholagogues. Well, I cannot discuss that matter here ; but this I know, that a good dose of calomel or blue pill given in the olden fashion, and followed by some sulphate of magnesia or other good saline purgative in the morning, will bring away copious motions of yellow-green or black matter, such as you do not get otherwise, and one feels, after that, light, and buoyant, and bright, and with a head clear for work, a state such as one has not felt in, perhaps, for weeks before, and the melancholy has been removed.

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* A favorite formula of mine, varied according to circumstances, is liq. morph. acetatis ʒ iij ; acidi nitrici dil. ʒ iss ; oxymellis scillæ ʒ vj ; mucil. acaciæ ℥ iiss ; glycerini ʒ ij ; syr. rhœados ℥ ij ; aq. cinnam. (vel rosæ) ad ℥ vj. M. To take one or two teaspoonfuls, five, six, or seven times in the twenty-four hours.

Another good old-fashioned purgative, but out of fashion now, is cream of tartar, one of the best of hydragogues, especially when combined with two or three grains of resin of jalap, and it is a remedy, too (when given in small doses and well diluted), under the name of the imperial drink, scarcely surpassed by any as a diuretic.

I regret not being able to refer to sundry other remedies of this class, of which I have memoranda before me; but as derangements of the digestive organs, in their various forms, constitute a large proportion of the ailments about which we are consulted in our daily practice, and are the source and root of a multitude of conditions and affections not at first sight associated with them, the field for the proper use of purgatives is extremely wide; and I think it was not wise of the compilers of the present "Pharmacopœia" not to insert it in Abernethy's celebrated Mistura Gentianæ Composita, which existed in the editions before 1864, a warm aperient mixture, which contained one-third part of senna, most useful, whether given alone or as the vehicle for other remedies, and which I trust will again appear when the new edition of the "Pharmacopœia," now about to be commenced, is published.

Such fluctuations and such changes take place in opinion and in practice, in beliefs and in actions, that it almost seems as if the result of the experience of ages, instead of being engraven on the rocks, were written on the sands, and that the wave of fashion, sweeping over these, at once obliterates the inscriptions which ought to have been indelible. And so at one time the laws of our country are made absolutely cruel in their harshness, while at another the sympathy of justice seems rather to protect the transgressors than to defend and justify the injured; and in things connected with religion the oscillations vary by turns from one extreme to the other. And changes scarcely less trenchant, scarcely less astounding, mark from time to time the course of our own profession. Perhaps fashion, perhaps custom, may have had to do somewhat with the practice of former times as well as of the present; but I cannot believe, I do not believe, that the united testimony of the sages of our profession, for more than 2000 years, bore witness to one continuous error, to a delusion and a lie. If there be one thing more clearly than another told by the consensus of their experience, it is that, in many cases, bleeding in one form or another has, more than any other means whatever, the effect of assuaging pain, of modifying the course of diseases and saving life. And all this I steadfastly believe.

The period of time which I have chosen for my retrospect—the last thirty-five years—pretty nearly bridges over the period when the ABSTRACTION OF BLOOD was in vogue and doubtless carried to an excess, to the present when the opposite extreme has been reached, and bleeding in all its forms, has (alas! for the welfare of patients) been almost banished from our practice. Much has been said, by way of explaining or extenuating the change, about the type of disease, or the human constitution having undergone an alteration; or about our better pysiological knowledge of recent times having taught us to look with wiser and better views upon the effects of abstraction of blood. I cannot enter here into the discussion of these questions; suffice it to say that clear, certain demonstration of the former is still wanting, and that, in my opinion, the definite teaching of both physiology and pathology demonstrate most unmistakably the reasonableness, in certain cases, of withdrawing blood from parts turgid from inflammation or distended from congestion. I much fear that the result is rather due to an unreasoning reaction from the over-bleeding of former times, and to the weak tendency of the human mind to run in grooves, and to the weaker tendency still of people to do as others do, and to follow what has become the fashion, without halting to ask themselves seriously whether a thing be right or reasonable, just or true.

It is impossible to enter statistically into the proof of the decrease of blood-letting from the arm ; but every medical man who has practised for the last thirty or forty years, can tell that formerly it was a practice constantly used, and every one knows that now it is one of the rarest of remedies. Formerly, there was no hospital without its cupper, and he came every day to carry out the orders left by the physician or surgeon during his daily visits, and I doubt if now there be a cupper attached to any one of the London hospitals ; while the name is now no more found in the "Post Office Directory," than is that of the Dodo or the Ichthyosaurus.

I beg you will not for one moment think that I advocate a recurrence to the former almost indiscriminate use of bleeding, or of any of the remedies which I am bringing under your notice. I think, indeed, that it is mainly their former extravagant and injudicious employment which brought them into disrepute. But the abuse of a thing is no argument against its use. It is but a truism to state that in order to employ any remedy rightly, a clear and accurate diagnosis as to the true nature and pathology of the case in which it is to be employed must first be made. This is the only sure foundation of any treatment whatever, and nothing can compensate for the want of knowledge, of diagnostic power, and judiciousness in the selection of remedies, without being influenced by the caprice, the custom, and the fashion of the period ; and if we bring these qualities to bear on our cases, we shall, if I mistake not, look with more favor than of late upon blood-letting in some of its forms, and find it to be one of our most potent means of combating some of the most serious conditions which we meet with in practice—a remedy of vast good when rightly used, and one to neglect which entirely is, I hold, to deprive your patients in certain cases of the only chance of recovery.

There is no doubt whatever that, in former times, blood-letting being used too indiscriminately, harm was sometimes done. But the harmful effect of even repeated bleedings was much less than, judging the matter theoretically, could have been expected, or than, with the prejudices of the present day against the system, will be readily believed. In fact, numberless experiments, so to speak, were constantly being tried in order to show (or, at any rate, which *did* show) at least the immunity with which repeated blood-lettings could be borne. Persons were in the habit, especially in some parts of the country, of being bled year after year to considerable amounts ; and not only were no injurious effects observable, but the people (and, in such matters, their feelings count at least for something) declared that they felt better, were stronger, and worked better after the blood-lettings than before them. I think, therefore, we ought to pause before rushing to the conclusion that the disuse of bleeding in its various forms has been the result of philosophically-observed and well-ascertained proofs of its injuriousness. I fear we must attribute the change of practice to causes far less creditable—to that oscillation from one extreme to the other in things medical, as well as in other things, to which I have a moment ago referred. Individual examples almost always produce a more definite and trenchant impression than do general statements ; and I beg, therefore, to give you an illustration of what I am saying, which will, I am certain, interest you. As we are all friends here, let me introduce to you, gentlemen—at least, to those of you who have not already the pleasure of his personal acquaintance—my good friend Mr. R. H., who has done me the honor of coming to hear what I have to say to-day. I am permitted to tell you that he has turned his threescore years and ten, and you see what a fine, handsome, and hale specimen of humanity he is. He is a good example, if not of the judiciousness of former practice, at any rate of the endurance of human beings under extensive and repeated bleedings, and (I need not say) of the survival of the fittest. After violent exertion in the early morning, one day in the summer of 1829, he had a fit, and fell suddenly off his chair while at breakfast, exhibiting slight spasmodic action of the muscles during the day ; for this he was that day bled three times (that is, the bandages were removed), and twenty-four leeches were applied ; on the next day (Sunday) he was bled twice ; on the Monday twice ; on Tuesday once, with the addition of twelve leeches ; and on the Thursday once. Soon after his recovery, he was sent to his home in the country, where, on September 18th, he was bled to thirty ounces ; on the 19th, he had another bleeding and twelve leeches ; and the blood-letting was repeated on the 20th and 21st. Thus he was bled nine times, and had thirty-six leeches applied within six days ; then, a short time afterward, he had four bleedings on four consecutive days, and twelve leeches. A month subsequently (in the October) he was sent down to the house of a surgeon in Essex, and there, in three successive days, was bled altogether four times and had twelve leeches. In March of the following year, 1830, he went to Edinburgh, and in the month of August he was again attacked under somewhat similar circumstances, with very similar symptoms, and moreover with absolutely similar treatment ; for on the 30th he was bled twice, and once daily on each of the six following days ; and, adds our friend, "during that year I was bled occasionally, but do not think I have been bled once since the commencement of 1831." Twenty-five bleedings (without counting the "occasional" ones subsequently, or reckoning the four dozen leeches) in the short period I have named, testify to a wonderful promptness and "activity" of practice ; and, whatever we may think of the treatment itself, the fact that our friend has since remained strong, vigorous, and active, has enjoyed sports, and has gone through a long life of the fatigues of general practice—these things, I say, enforce what I stated a few moments ago, that blood-letting does not necessarily, even when used to extreme amounts, produce the "weakness," the "debility," or the "prostration" attributed to it without evidence by the timid do-nothing views of the present day. I neither counsel, nor defend, nor approve of such wholesale blood-letting as that to which I have referred ; but I earnestly beg you to take to heart the lesson which it helps to teach, and to see that the loss of blood does not of necessity produce injury, but may, as I am certain it does, in right cases do immense good.

The names given to diseases convey, unfortunately, but a very small amount of information relative to their precise character, their gravity, and the treatment best suited to them ; and in pneumonia, for example, we have a disease which, according to its variety, the constitution of the patient, the stage at which we see it and its complications, may require most different, and apparently opposite, modes of treatment. But in the strong plethoric individual, where the attack comes on suddenly, where the breathing is intensely oppressed, the circulation greatly embarrassed, the pulse hard and full, I believe that a bleeding in the early stage is of high value. In some cases, it appears to diminish the duration of the attack, and without a shadow of doubt it gives immense relief to the patient, whose breathing is thereby rendered comparatively free, the pulse becomes greater and softer, and the pyrexia is diminished.

In very acute pleurisy, too, when occurring in similar subjects, the abstraction of blood is often speedily followed by immense relief to the dyspnœa, and to the agonizing pain ; and I have seen such relief occur, accompanied with the most grateful expressions from the patient, while yet the blood was flowing from the vein.

In these cases the abstraction of blood is founded, I believe, on true physiological principles, and it is often highly useful. But there is another class of cases in which the right heart is engorged with blood, and in which the only hope of rescuing the patient from death is by bleeding. A man of middle-age (I again draw from nature) has considerable chronic bronchitis, with some congestion of the lungs, and, like many other unwise persons, he goes to a southern watering-place instead of remaining in his room and in an uniform temperature. Becoming worse, he determines to return home, and travels on a cold spring day ; his dyspnœa is so much worse on the journey, that his friend and the fellow-passengers doubt whether he will arrive home alive ; and when his carriage meets him, it is with the greatest difficulty he is conveyed to his house, and got into his drawing-room. You are at once sent for, the message being that the patient is dying, and when you arrive you find that that is the fact. He is sitting in a chair (to lie down is impossible for him), his face is blue and swollen, his lips purple, the eyes suffused and staring, his heavy gasping breathing you have only too distinctly heard and recognized as you ascended the stairs, and when you see him you find his chest heaving, and each short, gasping inspiration followed by a long wheezing and moaning expiration ; his lungs are full of moist sonorous, and mucous and submucous rhonchi, and scarcely a trace of vesicular respiration is to be heard, and he is pulseless. He looks to you beseechingly, and gasps out, in scarcely articulate words, that he is dying. This is but too true. Now, the treatment for such a condition at the present day is " to pour in stimulants" (though the patient can scarcely swallow). Brandy and water are given, and ammonia, and perhaps ether ; then, if the patient live long enough to have them made, mustard poultices are applied to the chest, and to the calves, and to the feet, and the patient is fanned, and the patient dies. Something has been done, but that which true pathology—and, indeed, common-sense, unshackled by prejudice, custom, and fashion—would dictate, has been left undone. Appearances have been saved, but not the patient's life.

The fact is, that here the danger lay in the right side of the heart being gorged with blood, so that it was impossible for its stretched and distended walls to contract and to propel forward the thick and blackened blood. Oh, as you value your patient's life, as you value the blessed consciousness of being a minister who has done everything possible for his welfare, let me beg of you not to be contented with the futile treatment of to-day ; relieve that poor oppressed distended heart, and all may be well ! Open one of those veins which are, with every systole of the heart, tending to carry more and more blood to this already distended right ventricle, and all may yet be well with your patient. Sometimes this blood-letting, in extreme cases, is no easy matter ; it may be necessary, before you can effectually open the vein, to place the patient's arm in warm water, so as sufficiently to distend the vein ; and even when the ligature has been efficiently applied, and the vein well opened, you may have to press and squeeze and rub upward the arm before a drop of the thick and tarry blood will flow. But, when it *does* flow at length freely, oh, what a marvellous change may you see take place !—the breathing becomes quieter, deeper, and less noisy, the haggard face resumes the appearance of tranquillity, the blueness of the skin is replaced by a more natural tint, the pulse becomes more and more distinct, and, in a word, the choked-up heart is set free. This is no fancy picture. Every word is simple truth, and I appeal for confirmation to the memory of every senior member present who recollects the experience of his earlier days, and who can also probably tell you that the after-progress of such cases was sometimes almost miraculously rapid, so that in a few days even the patients might become convalescent. The younger members of our Association lack not the courage to do right when they know what right is ; and I trust that I shall live to see many of them put on record graphic results of a kind which I have been able only briefly to sketch out.

I must pass over other diseases and conditions in which some form of bleeding is useful, just naming the general plethoric condition of the system about which we are sometimes consulted, and which has only threatened, but not as yet produced, any definite disease. I must pass these over, I say, to refer to a group of diseases in which this remedy is often of the highest good, if the symptoms be rightly interpreted, but in which, if they be wrongly read, bleeding will, to a certainty, aggravate the conditions, and yet in which the diagnosis is sometimes exceedingly difficult ; I allude to the large class of affections of the head.

There is not a shadow of doubt that "coma, convulsions, and paralysis may all occur independently (as Dr. Todd says*) of hyperæmia or of inflammation ;" and if brain-irritation be mistaken for an inflammatory condition of that organ, and blood be abstracted in consequence, no doubt a grave error will have been committed, and a grave injury done to the patient. And the same is the case if a congestive condition be ignored when it really exists ; a grave injustice is done to the patient, and chronic suffering is allowed to continue, which in all conscience ought to have been removed. Quite recently, a patient of mine, in giving a history of his case, said that, for two consecutive years, he was subject to most distressing headaches, which were frequently so overwhelming, notwithstanding the supposed best treatment, as to render him quite incapable of attending to his business. At the end of that time, he was cupped at the nape of the neck freely ; "and," said he, "from that day, and it is now eighteen years ago, I have never known what a headache is."

Nature, indeed, seems to me in this, as in some other things, occasionally to point out what is the best mode of relief ; and I think she speaks in unmistakable language when, by a copious epistaxis, she efficiently relieves the congested turgid face, the beating temples, the dull, heavy headache, the sleepiness, the confusion of thought, and other symptoms, which, in a plethoric individual, betoken, if they are not relieved, serious danger, or perhaps an apoplectic attack. Let us not neglect her lesson !

But there are some cases which are on the very border-land of doubt, and concerning which those who are fully alive to the value of leeches may hesitate and differ. A girl aged fourteen—healthy, bright, but of somewhat nervous temperament—overworked herself with lessons at school, and with lessons at home, which she had no need to do. After being somewhat ailing for a few days, during which she made little or no complaint, but continued her school duties, she came home one afternoon, about the middle of November last, with extremely severe, oppressive, dull, heavy pain, occupying the whole head, but especially severe over the brows, and along a line corresponding with the base of the brain. The temperature was but slightly raised, but the pulse was notably quickened. She was somewhat excited ; grasped her head with her hands, and declared that it would burst. Yet there was no great throbbing of the temporal arteries ; the eyes were not at all suffused ; and the face was but little flushed. I looked upon the case as one of considerable cerebral congestion, rather passive than active, and certainly not acute, from over mental work, and the anxiety dependent upon a school-girl's desire to excel. She was put to bed ; evaporating lotion was applied to the head, and salines and aperients were given. No improvement occurred, and the pain continued without the slightest intermission ; and, therefore, a few days later (on November 17th), I ordered four or five leeches to one of the temples, but, unfortunately, only two of them took. A slight, but only slight, relief to the headache was given, but at any rate it was the first the girl had experienced. Seven days after, I applied four leeches to the other temple ; these bled very freely, and from that time the patient lost the vertex headache, and she was able to leave her bed ; but the pain along the base of the brain continued without a day's intermission. During the ensuing thirteen weeks, she was kept away from school and from all head-work, and she was seen by three most distinguished Fellows of the College of Physicians, to each of whom the particulars of the case, and what had been done, were detailed ; not one of them thought a further application of leeches desirable ; they might have been all very well, they said, when I prescribed them, but each one said he should not like to advise their further use. Bromide of potassium, and, subsequently, bromide of ammonium and several other remedies were ordered, and notably the frequent steeping of the arms and feet in hot mustard and water, besides other forms of counter-irritation. These plans were faithfully carried out for the thirteen long weeks which I have mentioned, and for all that long time was the headache absolutely persistent ; whenever the girl was awake, there was her heavy headache. At the end of this time, I determined to act on and to carry out completely my own views. On February 17th, therefore, five leeches were again applied to one of the temples, and, some while after, the same number was repeated. The first of these applications gave the first relief the patient had to the coronet of pain which had so long been her persistent companion ; but, though greatly relieved, it was not cured. The second of these applications (the fourth of the series) entirely removed it ; and the girl, once more bright and cheerful, returned to school, and has not since been an hour absent from her duties.

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* "Clinical Lectures," second edition, 1861, p. 322.

It is precisely the passive condition of the congestion in this case—the absence, that is, of acute symptoms—and the further fact, that the girl was of anything rather than of a plethoric temperament, which gave force, and point, and interest to the plan of treatment which proved successful. Had the symptoms indicated any more acute action going on within the encephalon, my excellent *confrères* would doubtless have concurred in the abstraction of blood, but nothing of that kind existed ; and yet here, four times only, during the long period of continuous headache, did the girl get any notable relief ; and, in each of the four times, it was after the application of leeches—the last of these occasions affecting a complete cure. I verily believe that, had I boldly carried out my own views earlier, much pain would have been prevented, and the duration of the disease would have been, some weeks before, cut short.

It is impossible for me, in this place, to attempt to discriminate in detail the various head-affections in which the abstraction of blood may be useful, nor may I even stop to enumerate them ; all I can do is to draw a few broad outlines. I have just sketched a case of one form ; but did you ever see the flushed face, the wild and glistening eye, the knitted brow of simple acute meningitis ? Did you ever hear the piercing delirious cry ringing through the house, caused by the unutterable pain and agony of that disease ? And have you seen, as a score of leeches have gradually drawn away the blood, a calm tranquillity gradually stealing over the face, and the drooping eyelids gently closing over the recently staring and throbbing eyeballs ? Have you heard the wild cry, as the blood is being drawn from the burning brain, subsiding first into a gentle moan, and then into a series of still gentler sighs, ere the leeches have dropped off the temples ? If so, you have heard music far sweeter than musician ever dreamt of, and, standing at the bedside you must have said, as I have done, "Thank God for His great blessing in having given us leeches ! "

Allow me just to remind you of another of my friends greatly neglected of late—somewhat of a relation to the one to which I last referred. In this case there is no question as to removing blood from the body ; but we have in it—in DRY-CUPPING—one of the most rapid and powerful means of removing somewhat deep-seated congestions and hyperæmia, and of alleviating or curing certain pains and conditions which are far less efficiently treated by liniments, and by other forms of counter-irritation. In cases of head-congestion, with dull, heavy pain and vertigo, where other remedies have failed, and where yet you do not think the abstraction of blood either desirable or requisite, dry-cupping to the nape of the neck will not unfrequently give great and immediate, but permanent relief. The stitch of slight pleurisy is now relieved by it, and plreuodynia and certain rival pains, and especially sciatica. But its effect in some cases of lumbago is really striking. With that looseness of language which is, I think, far too common among us, one constantly hears lumbago spoken of as a "rheumatic" affection. Rheumatism may doubtless affect the lumbar muscles ; but that ordinary attacks of lumbago, or the similar pains which affect the interscapular and other muscles, have anything to do with rheumatism, properly so called, I beg to deny. It does not occur at all frequently, or specially in those who suffer from true rheumatism ; it often occurs in those who never had an attack of general rheumatism, or even a pain in a single joint ; it is not associated with any derangement of the urinary secretion ; its onslaught generally, and its cessation often, are utterly unlike those of rheumatism, for the latter usually comes on and ceases slowly, while the onset of lumbago is frequently instantaneous, as from an awkward position or strain, etc., and its termination almost as rapid ; and, finally, dry-cupping will sometimes cure lumbago as by magic, while it would have a sorry chance, I fear, against rheumatism. A man, for instance, previously feeling perfectly well, is seized, while pulling on his boot, with a pain, which grips him across the loins like the clutch of a tiger's paw ; to stand up or to move one iota from his chair, becomes an instant impossibility ; the pain, liniments and frictions, the hot baths notwithstanding, may thenceforward last, though modified, for days or more. Hot-ironing the part is an excellent remedy ; but dry-cupping over the affected muscles sometimes achieves a miracle—the patient can forthwith get up, march, and attend to his work.

Gentlemen, I have finished. I have left unsaid many things I wished to say, and have said far more imperfectly than I intended many of the things to which I have alluded. I do not like to have to make apologies for shortcomings of this kind, because I hold that, whatever one undertakes, one ought to find time and opportunity to accomplish; but I may be perhaps permitted to say that most important matters, altogether unexpected, and altogether beyond my control, have of late perforce occupied my time, especially during the past week or two, and I have not had even spare minutes to revise this address as I should have wished; and I regret this the more, because the imperfections in my mode of bringing these subjects before you may have marred the impressions which I desired to produce. When the tide of opinion runs strongly in any given direction, it requires some moral courage to appear in public and boldly to oppose it, especially when that opinion is supported by men of profound thought and great power of mind. But deep conviction engenders boldness; I have survived the period when I was considered unorthodox in practising without giving, and in speaking and lecturing against the administration of, stimulants, in almost every form of disease, and in almost every case one met with. My convictions are not less strong as regards the advantages to be derived from the right and judicious use of the remedies to which I have been referring, than they were with respect to the evil produced by the indiscriminate use of alcohol; and, entertaining vividly these convictions, I should be unworthy of the position with which you have honored me, if I had hesitated to express and to enforce them. It is for you, gentlemen, to consider the suggestions I have made; to cull out what may appear reasonable; to put them to the test of experience; to alter and modify your conclusions accordingly, and so to guide your practice; and if, as I trust, at least some slight modification of treatment may ensue from the words I have spoken here, tending to relieve pain, to shorten the course of disease, or perhaps to prolong life, I feel that, even when I have passed away, I may still be, in a sense, a fellow-worker with you in the cause of humanity; and once more I thank you most sincerely for having been given, by your kindness, the opportunity of expressing my views from the high and dignified position of your presidential chair.—*British Medical Journal.*

AN ADDRESS ON THE CLIMATIC TREATMENT OF CONSUMPTION. Delivered at the Annual Meeting of the South-Eastern Branch. By FREDERIC BAGSHAWE, M.D., M.A.Cantab., F.R.C.P. Physician to the Hastings Infirmary; President of the Branch.

Gentlemen: It is no light matter to assume this chair, and enter on the duties of a post which has been so ably filled by my predecessor in office, to whom I must tender my best thanks for the kind way in which he has introduced me to your notice.

On the last occasion when this Branch of the British Medical Association assembled in Hastings, now fifteen years ago, its president was Mr. Ticehurst, a man whose sterling worth was fully appreciated by his fellow-townsmen, by his brethren in the Association, and by the whole body of the medical profession in this part of the country. Full of honors, he has passed to his rest; and, now that the post of president has again to be filled in Hastings, the loss will again be freshly felt. To-day we deplore a recent loss among the foremost ranks of the profession. It is but few weeks since Jardine Murray filled the post of chairman of the South-Eastern District at Brighton. Devoting his great energies to the alleviation of others' suffering, he was forgetful of himself, and fell a ready prey to the onslaught of acute disease.

The subject on which I propose to make a few observations is the climatic treatment of consumption.

The received views with regard to the climatic treatment of the most steadily fatal of all diseases, tubercular consumption, have been undergoing a series of changes. The day is not long past when, emerging from the treatment by confinement in warm rooms, and the application of various remedies intended to subdue the inflammatory conditions of the disease, it became the custom to send phthisical cases to such warm and relaxing climates as Pau and Madeira. That system had its day, to be succeeded by another, equally doubtful in its universal application. The warm and dry climate of the Mediterranean coast, Egypt, and the Riviera, came to be considered, both by the profession and the public, as the natural antidote to tubercular disease.

The climates of the Riviera are so well known, that it would seem unnecessary to enter minutely into their conditions. In frequenting them the object is to attain, in this southern latitude, some eight hundred miles to the south of our own, a climate which shall reduce the rigor of the winter season, and place the sufferers under conditions nearly approaching those of our own summer. The average winter and spring temperature of the Riviera exceeds by about eight or ten degrees that of our own country. In common with Alpine climates, their chief features are their dryness and sunniness, and the exhilarating property of the air. In contrast with them are their warmth and the greater density of air. Authorities agree in opinion that the chief advantage to be derived depends upon the fact that, under their influence, it is possible for the sick during the winter months to spend more time in the open air than can be secured in the health-resorts of this country. It is not alone to its southern latitude, and to the direct influence of sunlight, that the Riviera owes its warmth. Placed with a full southern exposure, it is washed by the Mediterranean, whose waters are estimated to have a mean excess of nine degrees over that of our own southern shores. The rush of cold air coming down south from France and Switzerland renders such places as Montpelier liable to extreme alterations of temperature. Along the Riviera protection is obtained from the severity of these winds, which, passing over the lofty chain of the Maritime Alps, strike the sea at a distance of many miles. It is true they are often reflected in currents of various intensity, even along the sheltered coastline, giving rise to a great variety of local winds. Even in the finest winter weather these dry and cool northern airs prevail invariably at night, while southerly breezes occupy the daytime ; but it is to the former that the bracing character which these climates present is to be attributed. It will appear, then, that, while the Riviera enjoys great advantages from a warm southern exposure, and from the influence of a warm inland sea, it partakes largely of the character of the continental climate of Europe ; and herein it stands in contrast with insular climates, whether southern ones such as that of Madeira, or northern ones like our own.

It is especially for the sufferer from lung-diseases that the stations on the Riviera have won their great repute, and their claims hold good chiefly on account of the lessened liability to the recurrence of catarrhal conditions.

Morbid products in the lungs, whether dependent on tubercular infiltration, or the result of inflammatory deposits, and of limited extent, are dangerous and progressive almost in proportion to the frequency and severity with which irritation is set up in the surrounding tissues ; and, conversely, amendment and absorption are likely to ensue in proportion as the surrounding lung can be preserved in a state of health. Again, while the avoidance of catarrhal states is so important a factor, a no less important one is the improvement of the general nutrition, such as is promoted by pure air and improved digestive functions. In those cases which are thus liable to irritation of the mucous tracts, whether of the air passages or of the stomach, under the application of the stimulus of cold, and in those where the circulation is feeble, and localized congestions are readily set up, the climate of the Riviera is suitable.

Cases come under observation in which the return of the autumn cold and damp brings fresh irritation to diseased portions of lung which have been lying quiet during the warmer months ; and, in these, removal to the Riviera year after year has been the means of alleviating this condition, and, year by year, arresting any further damage. The gentle stimulation of dry air and sunshine is grateful, where the extra stimulation of cold and rarefied air would be intolerable. An individual advanced in age, or lowered by disease or overwork, or by general constitutional causes of debility, living at so low an ebb as to be depressed by the cold of a northern climate, revives under the influence of moderate heat and stimulus.

But just as, with the vegetable creation, the forcing process renders the plant more susceptible to cold, so the patient who winters in a warmer climate, on his return home, becomes more sensitive to change. Winters abroad must be followed by summers spent on the mountains, or, still better, in northern home-climates, if we would avoid permanent enfeebling effects from a sojourn in the south.

Here it may be observed that the south-eastern coast of England not only provides a convenient and suitable halting-place to those who are returning home after a winter spent in the south of France, and who dare not venture to the colder parts of England until summer weather has set in, but also that the climate proves itself to be well adapted for a summer residence. In contrast to the Riviera, it is found to be sufficiently bracing for many of the more delicate sufferers from lung disease.

Again, constitutional nervous irritability is alone a reason against sending patients to these climates. Where irritative fever is present as the result of disease, in whatever stage, whether of deposit, of active softening, or of cavity, no remedial influence is to be expected. Such cases have seemed to me, during four winters' residence in the south, to deteriorate more rapidly than is usually experienced in England. When, however, arrest has set in, and the fever subsided, extension of deposit or softening has ceased, or the system has shown signs of toleration of a cavity, the case is different. Change may then be beneficial.

It has been set forth as one of the inducements of the south of France that residents there avoid east wind, and thereby escape the dangers of intercurrent pneumonia, and so forth. In my experience, the *mistral* or the *bise* is equally to be dreaded. Its force is often greater than that of any ordinary north-east gale in this country. Intensely dry and irritating in itself, it is rendered more so by the dust-loaded atmosphere which it creates, and which penetrates everywhere. From a steamer in the Bay of Nice, I have seen the town enveloped in a cloud of fine dust nearly three times the height of the houses. No wonder such an atmosphere gives rise, as I have seen it do, to hæmoptysis, as well as to other acute symptoms. I believe hæmoptysis to be of more frequent occurrence in the south of France than it is in this country.

It is especially at such times of *mistral* that irritative dyspepsia is prone to arise. It is often accompanied by nervous irritability and sleeplessness —a common complaint, indeed, at all times among a certain class of subjects, and one demanding immediate removal from immediate proximity to the sea. As a rule, patients do not gain weight during a winter spent on the Mediterranean.

As a matter of fact, the towns of the Riviera labor under many of the disadvantages of continental climates. The transitions from heat to cold are rapid, and often unexpected. At the hour of sunset, the rapid fall of temperature is accompanied by the diffusion of excessive damp from the soil, and precipitation of watery vapor, a condition sufficiently dangerous to health.

Considerable parts of Nice, of Cannes, and also of Mentone, are built on land formed by the deposit of earth from mountain-streams at their *débouchement*, and are little above the sea-level. At a depth of a few feet this low-lying land is percolated by water. In the absence of a system of water-supply or of drainage, it is the custom to depend for water on wells sunk into this water-bearing bed, and also to employ cesspools constructed in the same beds, emptied out with varied amount of care and regularity. The water-supply of Cannes, however, is placed above reproach by the distribution of the Saigne river-water through pipes to the different parts of the town. It may, however, be observed that it would be a decided improvement were the main conduits to the town inclosed, instead of being open, and thus liable to possible sources of contamination.

The various municipalities have thus far found it a more difficult matter to introduce any system of drainage. It is not wonderful that, with a damp and porous subsoil and elevated temperature, a larger amount of zymotic or accidental disease should prevail in those towns than in our own health-resorts ; and that, with the prevalence of bad smells and unsanitary conditions, we should sometimes hear rumors of typhoid fever, sore throat, and the like. In the autumn of 1864, when cholera had prevailed in the Riviera, I was able, by personal inspection of the bills of mortality, to verify the above statement. Again, we are led to reflect that, in a climate where warmth and surface-moisture favor the development of microzymes, on which it is probable that the presence of zymotic disease depends, the existence of a tubercle-bacillus would also find encouragement, whether we are to attribute phthisis to this organism as cause and effect, or whether we come to regard the germs as simply an epiphenomenon of the complaint. Hence a first consideration must always be not only a pure air, but one as antagonistic as possible to septic influences.

To sum up briefly at this point of the subject, my conclusions are these: 1. For certain persons who have become liable to bronchial inflammation, or are the subject of phthisis to a limited extent, and who at the same time exhibit a phlegmatic or unexcitable nervous system, the warm stimulus of the Riviera is indicated. Such cases, however, must not exhibit pyrexia. 2. In advanced phthisis, little good is to be expected beyond the enjoyment of sunnier days. 3. The drawbacks to residence abroad, both for patients and friends, are numerous, and must be reckoned with.

It has been within recent times, and notably within the last seven or eight years, that the cold and dry climates of mountain-stations have laid claim to a remarkable influence on phthisis. Testimony to the fact of the large measure of success attained by this climatic treatment has now been established by the evidence of many competent observers. The influence of fashion may have helped to make this change popular, but it will not account for its extended and steadily increasing favor, both with the profession and with the public. The leading features claimed for the Alpine sanataria bear comparison with those of others previously in vogue. It is shown that, in the dry and tranquil air of mountain valleys, patients may enjoy an outdoor life under a cloudless sky to an extent which is not to be equalled, save in Upper Egypt; while the cold and dryness are important factors in these regions of rarified air. Omitting any detailed consideration of their climatic conditions, it will be well to touch upon the physiological effects of an altitude of about 6000 feet on the human subject—premising only that these effects vary much with the age and constitution of the individual. A marked effect of altitude is to increase the respirations. On first arrival, this increase is often noted to be from 2 to 5 in the minute, and may be associated with a sense of weight or oppression at the sternum; after a time, the respirations usually return to their normal standard, the lungs and thorax becoming expanded. This enlargement of the thorax has been carefully studied by Weber, Williams, and others. Dr. Williams found, in his series of cases, that the increase amounted to from one to three inches. Dr. Ruedi confirms this observation in ninety per cent of a large number of cases. With increase in respiration and perspiration is associated a quickened circulation. In new comers, the pulsations may be raised from two to ten in the minute; but it is customary to find this increase subside after a few weeks, and resume a normal standard, the force of the heart's action steadily augmenting, together with improved vascular tone. Where the vital powers are vigorous, and the integrity of the circulation intact, the influence of cold combined with rarification acts as a stimulus to the system, and a feeling of lightness and buoyancy is experienced. But should the circulation show signs of failure, either through a depressed vitality, or in consequence of some inherent defect or disease, a sense of oppression is experienced, accompanied by chill and general *malaise*. Under such a condition, the tendency to congestions and inflammations is directly promoted, whether it be of the lungs or of the bronchial tubes, or of the heart itself.

It cannot be too distinctly remembered that all forms of disease of the heart and great vessels (indeed, all forms of structural disease except the pulmonary) are injuriously affected by great altitudes. The reason for this will be sufficiently manifest when it is remembered that the atmospheric pressure on the human body at the altitude of Davos (as estimated by Lombard) is reduced by about 6600 pounds, pressure at sea-level being about 34,100 pounds.

Seeing that the function of digestion is carried on more actively, and that appetite is improved, are we to look for increase in weight? The great loss of watery vapor constantly going on, especially when increased by active exercise, appears to counteract the tendency to become stout. Nevertheless, we learn from Dr. Ruedi's statistics, that many do gain in weight. It is an interesting fact, as showing the effect of climatic change upon the general health, that, in the case of those coming from the sea-level to high altitudes, an improved condition in the whole animal functions takes place; while those living habitually at such elevations are subject to depressed vitality, the result of over-stimulation, re-acting on their nerve-centres, and are equally relieved by change to a lower level. It appears, then, that at high altitudes all the functions of the body are stimulated to increased action. It is true that, for many diseases, physiological rest is the great requisite for their alleviation. The full-blooded man, with weak and incompetent heart, will have the balance of his circulation dangerously disturbed; for such, therefore, and for other diseases, notably those of the central nervous system, other climates must be sought. Phthisis is, on the other hand, a disease of low nutrition, associated with thin and impoverished blood. Will the whole class of sufferers from this complaint derive benefit from such altered conditions of climate? or are we to make any and what selection among the cases we would commend to their use? A reserved store of physical force is to be looked for mostly among those who have accidentally become the subject of phthisis, exposed, it may be, to various depressing influences; but not alone among those who have acquired phthisis, but equally among those tainted by heredity, are to be found many who will respond to the whip of active stimulation. Their reserves are capable of being brought into play to aid nature's effort at repair. The great majority of such invalids are young; and, happily for youth, which is the most frequent period of the invasion of phthisis, it is the time of most rebound. An examination of the cases of Allbutt and Williams shows that the great majority of cures or improvements were under thirty years of age, while the reverse obtained in those who were under forty. Following a local authority, we may then say that the first indication for mountain treatment is to be found in that delicacy which often precedes phthisis, or is announced by hemorrhage in the hitherto undamaged lung. It is maintained that at high altitudes, whether in Switzerland or in the Rocky Mountains, the liability to hemorrhage is reduced; and not only statistics, but the general consensus of opinion, agrees with this conclusion. In Allbutt's cases, many had been subject to hæmoptysis, while in few had there been any recurrence during residence at Davos. I am informed that, out of ninety-two cases treated this winter, there were only four of hæmoptysis, two being severe and two slight. Similar testimony comes to us as to the rarity with which hemorrhage occurs in Colorado. It is fair to conclude that, as a prophylactic against disease, and in early phthisis with hæmoptysis, and in suitable constitutions, such stations are recommended with confidence. Care should, however, be taken that they are not approached too rapidly, and that, on arrival, caution should be employed in taking exercise. Again, we may recommend the climate of altitudes in catarrhal forms of phthisis affecting a limited portion of lung, without much constitutional disturbance. Should, however, the signs of irritative fever be present, especially if accompanied by stomach-complications and sleeplessness, the experiment becomes a dangerous one. Visiting Davos in the winter of 1879, Dr. Williams found a disproportion between the amount of pyrexia and the extent of lung involved. Dr. Symes Thompson, however, in the course of a visit there last winter, came to an opposite conclusion, and says that it would be "hard to find elsewhere so many cases of pronounced and often extensive and advanced lung-disease, with so little pyrexia or constitutional disturbance." It seems to be certain that, when febrile action does occur, it is of a more active kind than at low levels. Dr. Ruedi assures me, however, that moderate amounts of fever prove to be amenable to treatment, and that it is only in more marked cases, where reduction of temperature does not take place within six weeks, that disease progresses steadily. A well-marked case of improvement was seen by Thompson: rapid pulse, high temperature, hectic, cough and night-sweats, were associated with cavity and softening on one side, and recent softening on the other. Dr. Ruedi gave a favorable prognosis, and three months later reported that the temperature was normal, the pulse quiet (90 instead of 120), night-sweats had ceased, and moist sounds had been replaced by dry ones. Such results are said to be commonly met with.

Again, cases of induration and infiltration of lung, due to active inflammation assuming a chronic form, are especially suited, even where the disease has run on to excavation, provided the amount of lung-tissue involved is moderate, and the breathing has not thereby been rendered difficult. If chronic catarrh of the bronchi have resulted in dilatation and emphysema, the case is not likely to find benefit. This form of complaint, moreover, occurs in advanced years, or in those of waning vitality, when the system no longer adapts itself freely to new circumstances, or responds to their influences. Such conditions of the bronchi are frequently dependent on cardiac disease, or debility, and are, on this ground, unsuited to altitudes. For inflammation of the larynx, of whatever form, altitudes seem to offer no inducement. Where tubercular deposit has taken place in the larynx, the case is directly unsuitable.

After old pleurisies which have occurred around healthy lungs, tying them down and preventing their expansion, pulmonary disease is especially liable to follow. By the judicious employment of gradually increasing altitudes, it seems reasonable that increased chest-capacity may be gained, and fresh lung-action brought into play ; and such has proved to be the case.

Active disorders of the nervous system require especial care in relation to altitude. The more severe and acute the nervous symptoms, the more are they likely to be aggravated by elevation ; and this has been observed to be true of chorea and epilepsy, while in hysteria the air has often proved irritating, inducing increased sleeplessness, chills, flushes, and congestive headache. In like manner, the sufferings of neuralgic patients are intensified by continued cold. In pure spasmodic asthma, the results here are as uncertain as elsewhere. Many have been found to derive benefit from a high residence, both in winter and in summer ; but, should emphysema and bronchitis be present, improvement cannot be counted on.

On the other hand, in nervous exhaustion (whether or not associated with anæmia), such as is found in the class with overworked brains, arising out of intense application, very decided improvement may be expected. Lessened tension in the cerebral circulation comes to the aid of new scenes, and out-of-door life, and freedom from harrassing cares.

To sum up, I would insist on the general statement that, in the arresting of chronic phthisis, the climate of altitudes has established its utility ; that the favorable results are best shown in the early and hemorrhagic cases, whether acquired or hereditary ; that stimulating effects call into play increased activity of the respiration and of the heart's action, while tissue-change is promoted to an extent highly salutary to the consumptive who shows evidence of resisting power in the system ; that in youth and middle age (the period of greatest prevalence), the advantages are greater than in more advanced life ; that negative or injurious results are likely to arise, particularly in those of nervous and irritable temperament, in proportion as the extent of the deposit has taken place, where the case has advanced to softening, and where febrile disturbance exists ; and, further, in third-stage cases, involving one-third or one-half of the lung, with constitutional disturbance, or with hemorrhage from a cavity ; that, finally, such negative results are especially prone to occur when combined with increased force and frequency of the heart's action.

In order to secure permanent good results in chronic phthisis, it is desirable—almost essential—that the patient should reside altogether on the mountains for some years. Again and again have serious relapses been observed to occur on patients returning to reside in their lowland homes. This fact requires to be remembered in recommending such sanatoria. Elderly people often cannot stay in them, for reasons already alluded to ; and thus families are often broken up to an extent which causes no small amount of inconvenience.

Having now discussed the varieties of foreign stations in the climatic treatment of chest-diseases, a brief consideration of the claims of our own health-resorts may not be out of place. In the present popular tendency to rush abroad, these claims have been of late too much overlooked ; and a careful balance of the advantages or disadvantages of a foreign sojourn, even leaving out the often important question of expense, may incline us to a more favorable estimate of our English watering-places, whether of the distinctly bracing or of the milder class. With its extensive coast-line, and great geological variety, and its consequent wide range of climate—from the sea-impregnated mountain breezes of the Western Highlands to the drier air of the south-east coast, with the dry, bracing, semi-Alpine air of such inland elevations as Malvern—Great Britain possesses a considerable variety of climate. While we believe that there are many types of case for which removal may be recommended to the more positive climate of altitudes on the one hand, or to the warmer and more genial influences of a Mediterranean winter on the other, each in its turn involving a more complete contrast than is to be found in winter health-resorts of this country, yet experience teaches us that there are many for whom our own winter-stations afford, on the whole, the greatest advantages. The contrast between the winter climates of these, and that of towns but little removed inland, is very definite, influenced as the former are by southern exposure, by freedom from winter fog, by the moderating influence of a sea warmer than the land, and lastly by shelter provided, in different degrees, from north and east winds. This contrast is great when comparison is made with midland and northern towns, and provides as complete change as will, in many cases, be needed. During the first four months of the present year, observations have been made in this town with the sunshine-recorder as to the amount of bright sunshine, and the figures stand thus contrasted with similar observations taken in other towns : Hastings has had a total of 345 hours, Southampton, 333 hours, Plymouth, 308 hours, while Leicester has had 234 hours, and London, 210 hours, *i.e.*, London has experienced barely three-fifths as much sunshine as Hastings, and Leicester less than three-fourths. Moreover, a point of great moment, the chances of meeting with good hygienic conditions in our own health-resorts are greatly superior to those on the Continent. The importance of providing a good water-supply and thorough drainage is recognized and acted upon. And each year adds to the studied care with which such sanitary details as the trapping and ventilation of house-drains are attended to. Equally important is the fact that nowhere in Europe is the suply of food more ample, more nutritious, and more diversified ; and, thus, nowhere has the patient a better chance of increasing in weight (and thus of doing well) than during a winter spent in England.—*Ibid.*

ALTERATION IN FLOUR THROUGH THE ACTION OF THE SUN.—It frequently happens that wheat or rye flour, in spite of the greatest care in baking, yields an inferior loaf, and the failure is commonly attributed to adulteration ; but when submitted to investigation neither microscopic nor chemical tests reveal any adulteration. Such flour is returned to the miller or dealer as unfit for use. The miller says the flour was injured by the heating of the stones, and the dealer attributes the defect to the circumstance that the sun must have shone upon the sacks during transportation. It has been proved by numerous experiments that flour cannot bear the action of the sun, even when not exposed directly to its rays. When flour is exposed to the heat of the sun an alteration takes place in the gluten similar to that produced by the heating of the stones. For this reason it is advisable that the transportation of flour should take place, if possible, on cool days or by night, as well as that flour should be stored in a cool place.

SELECTED ABSTRACTS.

CARDIAC THERAPEUTIC AGENTS.—Prof. Germain Sée has prepared for the new edition of his important work, " Du Diagnostic et du Traitement des Maladies du Cœur," an additional chapter on cardiac therapeutic agents and poisons in general, which gives an interesting summary and a classified view of recent researches on the subject, and states, in a clear way, the views of modern authorities on the physiological and therapeutic action of the drugs most useful in the treatment of heart disease. This extract has been published in advance in the *Medical Gazette* of Paris. Professor Sée begins by pointing out that, as medicines in general have a predominant action on one or the other great systems of the animal organization, cardiac drugs have, in particular, an elective action on such or such part of the apparatus of innervation which presides over the movement of the heart. This apparatus represents a very complex mechanism, duplicated in two systems which work side by side ; a system of acceleration and a system of inhibition or arrest, this latter causing a slackening and arrest of the heart's action when excited. The different organs which constitute this apparatus extend from the heart to various parts of the nervous centres. In the substance of the cardiac muscle we find independent centres in communication with nervous ramifications which proceed from the cardiac plexus formed by the terminations of the vagus and great sympathetic nerves. Through the medium of these two systems of nerves, the heart is connected with the cord and the medulla ; as, moreover, it is beyond doubt that pyscho-motor centres exercise a considerable influence on the function of the heart, it is necessary to admit the existence of connections between the cardiac centres and the vaso-motor centres of the medulla and cord, and certain corresponding centres situated in the cerebral cortex. Passing over the latter centres, concerning the localization of which physiology at present can give no information, we see that the different factors of the apparatus of innervation of the heart may be classified as follows : Medullar centres ; spinal centres ; the great sympathetic nerve ; the trunk of the vagus nerve, including accelerator and inhibitory fibres, and intra-cardiac terminal ramifications of the same nerve, and special intra-cardiac autochthonic centres, also both accelerator and inhibitory. How has success been reached in recognizing with certainty the elective action which certain therapeutic or toxic substances exercise on one or the other parts of this apparatus of innervation ? The method is essentially simple, and when closely examined we might, at first, wonder that it has not yet furnished us with more complete data. Experimental physiology had, by methodical analysis, determined the exact part which each of these factors play in the entire mechanism. This has been effected by a process of deduction, obtainable by observing the effects of functional suppression of one or the other part of the apparatus of innervation. The analysis of the disturbance of circulation brought about by the division of the medulla at its lower boundary, has instructed us as to the part played by the cardiac and vascular centres situated in this portion of the nervous system ; and the same has been the case in respect to the division of the medulla at different levels, and the division of the great sympathetic and the pneumo-gastric, in numerous places. Observation and analysis of the phenomena manifested in the heart, and circulation under the influence of cardio-vascular drugs and poisons, have added to this line of research. This method must necessarily lead toward the desired result of knowing the elective action of a drug or poison on each portion of the apparatus of innervation of the heart. Professor Sée takes, as an example, muscarin. Introduced into the animal system, this poison brings about arrest of the heart in systole. As to the explanation of this fact, many hypotheses may be framed; it may be attributed to paralysis of the accelerator system, represented by filaments of the great sympathetic, but the section of this nerve does not affect in any way the results of the experiment; or it may be explained by supposed excitation of the inhibitory filaments of the trunk of the pneumo-gastric, but the section of this nerve does not in any way prevent the arrest of the heart from being produced under the influence of muscarin. The very fact that the heart is arrested in systole does away with the hypothesis of direct paralysis of the cardiac muscle by muscarin. Moreover, mechanical excitation of the heart thus arrested in systole, renews its contractions. The share of the ramifications of the nerves of the heart and the intra-cardiac ganglia remain to be considered. A pharmacologist of great merit, M. Schmiedeberg, has shown, with admirable demonstrative precision, that muscarin produces the arrest of the heart in systole by exciting the intra-cardiac inhibitory centres.

This is the method, in its simplest terms. If it has not yet yielded the fruits which might have been expected from it, there are probably two special reasons which may serve to explain this: the first, which will for a long time help to check the progress of this study, lies in the complexity of the composition of these alkaloids, which represent, according to modern ideas, the active principles of the medicines which we use; most, at least, of those which are drawn from the vegetable kingdom. If we reflect a little on the discoveries made with regard to this subject during the last few years, we shall recognize the inherent difficulty which it involves. Aconitine was once believed to be a well-defined body, an individuality both chemically and physiologically; at the present moment we are in a state of great perplexity and difficulty in respect to the number of aconitines, which differ from each other to a very considerable extent in the intensity of their poisonous effects. The same remarks apply to digitalin; and the chemists who are studying this question are apparently disposed to expect that from each of these alkaloids, which are now reckoned as well-defined and almost elemental principles, we may shortly extract as many distinct active principles as have been already found in opium.

Two distinct alkaloids have already been extracted from pilocarpin, namely, true pilocarpin and jaborine, possessing absolutely dissimilar pharmacodynamic properties; while the raw pilocarpin of commerce resembles muscarin in its action, pilocarpin isolated from jaborine shows a remarkable analogy in its action to nicotin; jaborine, on the contrary, exercises on the heart effects similar to those produced by atropine.

The second reason why this study of the elective action of cardiac medicines on the different parts of the system of innervation of the heart proceeds with so much slowness is, that the localization of the effects of the same agent varies with the doses and the duration of the experiment. Certain effects have been recognized by certain experimenters, and described when they were produced by very minute doses, and lasted but a few seconds, and these appear in tables of reference that profess to indicate the effects of the drug, without always indicating the exact condition, or the precise circumstances under which such effects were produced. Moreover, these primitive and specific effects of a drug on a certain part of the apparatus of the innervation of the heart, may be masked or interfered with by the energetic effects of the same agent on other systems. Thus a substance which excites the inhibitory filaments of the pneumogastric causes slackening of the heart's action ; but this effect may be compensated by paralysis of the vaso-motor system, which tends to lower the intravascular pressure, with consecutive slackening of the heart.

The following table will indicate, at a glance, the principal facts already known in relation to the elective action of cardio-vascular drugs and poisons :

	STIMULATION.	PARALYSIS.
Cardiac muscle	Digitalin.	The same in the second period of action.
	Iodine in small doses.	Emetin.
	Camphor.	Salts of copper, barium, and potash.
	Caffeine.	Chloral in large doses.
		Scillaïne.
Intra-cardiac muscular motor centres.		Saponine in its last period of action.
		Iodine in large doses.
Intra-cardiac inhibitory centres.	Muscarin.	Atropin.
		Fabarin.
		Spartin in large doses.
Intra-cardiac ramifications of the inhibitory filaments of the vagus nerve.	Nicotin.	Pilocarpin, second phase of action.
	Pilocarpin.	
	Calabar bean.	
Trunk of the vagus nerve.	Aconitin.	Spartin.
	Napelin.	Napelin, second phase of action.
Accelerator filaments of the great sympathetic.	Apomorphin	Spartin.
Medullary inhibitory centres.	Digitalin.	Chloral.
Vaso-motor centres.	Bromide of potassium.	Croton-chloral.
		Hydrocyanic acid.

—*Brit. Med. Jour.*

THE CONTAGIUM OF GONORRHŒA.—Dr. Elkund, of Stockholm, has sent me a manuscript in French, on the microscopic organisms seen in gonorrhœa. In order to arrive at some conclusion about this curious point in contagion, Dr. Elkund has made many microscopic examinations of gonorrhœal pus, and also of the most superficial layer of the mucous membrane of the navicular fossa, which latter he removed by means of a small knife, used for microscopic dissections, which he introduced into the canal of the urethra to the length of about two or three centimetres. He studied this latter preparation in its natural state, being convinced, from experience, that this was the best way to avoid false conclusions. Sometimes he added a little acetic acid, or solution of aniline, as, for example, fuchsine, and also carmine, etc.

In the first place, he always found the gonococcus described exactly by Neissen, the diameter of which varies from less than 0.1 to 0.5 mm., and larger. These are as brilliant as pearls. The whole of the round cells called pus, are perfectly full of these, and they are also found in innumerable quantities in the inter-cellular liquid. Sometimes they move rapidly, sometimes they are united like a figure of 8, which, according to Neissen, proves that their pullulation takes place by scission. When tinged with aniline violet it is seen that the gonococcus is a flat plain disk, not a spherical ball ; but Dr. Elkund cannot agree with those who maintain that these microbions represent the only specific part of gonorrhœa, since he has found similar and probably identical ones in acute and chronic disease of the intestines and lungs, and in ulcerative stomatitis. Generally, he thinks it the common office of these organisms to produce acute inflammation with desquamation of the epithelial cells, and the formation of pus cells which are filled by them. Indeed, these organisms represent troups of miners in pathology.

Long ago the same writer found that in cases of gonorrhœal cystitis the cells of pus from the bladder were, as a general rule, furnished with appendices, either filiform or gemmiform. The pus and the exudation of the inflamed mucous membrane of the urethra contain, without exception, a beautiful network of mycelial filaments. The principal filaments of the organism in question, which Dr. Elkund calls *ediophyton dictyades*, have a transverse diameter of precisely 1 mm., and are perfectly clear and hyaline. These filaments anastomose with each other at all angles. The mycelial tubes here and there have complete networks of swellings, the limiting lines of which are either regular or very sinuous. The parasite in question, like all similar, is gifted with the power of propagation by the simultaneous lengthening of an immense number of mycelial filaments or fragments of secondary ramifications of those which proceed along the superficial layers of the mucous membrane, and which enter into the glands of Littré, Cowper, etc. It is truely exceptional for this little organism to burrow, like the one seen in diphtheria, so as to produce a general infection, for the firm fibrous tunic surrounding the urethra forms a solid rampart to prevent the advance of the mushroom, and the organic resistance of the patient is generally greatest at the epoch when a man contracts gonorrhœa.

As a general rule, the ramifications of the mycelium run most along the surface of the mucous membrane of the urethra, the fundus of the bladder, the ejaculatory ducts, the seminal vessels, and deferent canals, etc. In cases of chronic catarrh of the lungs after gonorrhœa, Dr. Elkund says he has noticed the gonococcus of Neissen, and the microbion just described in the sputa. He says that it is well known that in the urine of scarlatina patients there are found filaments of mycelium long and hyaline, and alleges that in cases of female patients such urine may set up gonorrhœa in the vagina; and he has constantly found the same mushroom in the gonorrhœal discharges of women.

Dr. Elkund says that in all his microscopic examinations of the pus, and superficial layers of soft sores he has found the gonococcus of Neissen and the *ediophyton dictyades.* He, therefore, believes the virus of soft chancre and that of gonorrhœa are identical. It is only, he puts it, the difference of the affected localities which cause the difference in symptoms, a solution of continuity being necessary to produce a soft sore. Surely, this is not worth alleging without experiments, and, as a rule, experiment flatly contradicts the assertion of Dr. Elkund.

The author also says that the microbions of balano posthite consist in vibrios of putrefaction. Such are often found in the Douglas *cul de sac* of women, and may give rise to grave peritonitis in some cases.

Dr. Elkund made some microscopic experiments on various therapeutic agents commonly used in gonorrhœa. Saturated solution of borax did not seem to influence the organisms. A solution of perchloride of mercury had but little effect on them (1 in 10); but the tincture of eucalyptus globulus had a good deal of power in causing the movements of the gonococcus to cease.

He has succeeded in curing patients, after disappearance of the acute stage of gonorrhœa, by means of cold sitz baths and injections of solutions of phenic acid, or chloral hydrate; 1 to 600 of the first, and 1 in 150 of the second; giving at the same time copaiba and cubebs. He found that in convalescence from gonorrhœa the gonococcus first disappeared from the urine. The ediophyton are very difficult to be got rid of.

The conclusions of Dr. Elkund then are—1. Diagnosis. The elements of diagnosis in gonorrhœa are comprised in the discovery by microscopic examinations of the presence of the gonococcus of Neissen and of the *ediophyton dictyades* in the pus which is examined. As to prophylaxis, extreme cleanliness is enjoined to prevent fragments of the latter entering the passages.

Treatment.—Introduce as soon as possible into the urethral canal of the male as deep as from 3 to 6 centimetres a bougie covered with carbolized oil, and made of iodoform and 10 drops of essence of eucalyptus globulus with cocoa butter 2.5 grammes, which is then allowed to liquefy in the canal. Excoriations he recommends to be touched with a hair brush dipped in a solution of iodoform in essence of eucalyptus (1 in 10).

The cure will follow in proportion as the microscopic organisms can be killed by this treatment. The remedy recommended by Dr. Watson Cheyne, *i.e.*, of bougies as above mentioned is an excellent remedy, according to Dr. Elkund.

I have no means of saying how far Dr. Elkund is right in his assertions as to the presence of peculiar microscopic appearances in gonorrhœa, but there seems a possibility that it is so. I do not agree with him, however, when he talks of the identity of the virus of gonorrhœa with that of soft chancre, for I have not been able to produce the latter on patients by inoculating them with gonorrhœal pus. Syphilis eventually will, in all probability, be found also to have some special germs.—C. R. Drysdale, M.D., M.R.C.P., Lond., in the *Medical Press*.

AMENORRHŒA—*Permanganate of Potash* (Drs. Ringer and Murrell).—In the case of country girls who have "seen nothing" for a month or two after coming to town, this treatment has answered admirably. Often enough patients do not consult their doctor until they are "overdue," until the time of the expected period has passed by for some days. Even then the prompt administration of the permanganate will often bring on the flow at once, but should it fail to do so the treatment ought to be continued, and the patient will probably menstruate normally at the next monthly time. Generally our efforts are not crowned with success until the medicine has been taken for at least three or four days, but in some instances the permanganate acted with striking rapidity, the menstrual flow making its appearance after only two or three doses had been taken. It is not necessary to discontinue the treatment on the appearance of the menses ; in fact, we generally tell the patient to continue taking the pills three or four days longer, finding that it facilitates the flow. The permanganate often succeeds well after the failure of other remedies, such as iron, aloes, nux vomica, strychnia, pulsatilla, nitro-glycerine, and hot mustard baths. Sometimes, however, it is necessary to give it for six weeks or even longer before the desired result is obtained. In those cases where the patient has menstruated only once or twice, and has then entirely ceased for some months, our treatment answers well ; the menstrual function is reestablished, and thenceforth proceeds normally at every successive monthly period. In some cases there was no actual amenorrhœa, but the flow was scanty, lasting, perhaps only a single day, or it may be only a few hours. Here the administration of the permanganate prolonged the flow, and even in some instances when it had ceased brought it on again. In girls about fifteen or sixteen, who have never menstruated at all, the permanganate, as might be expected, is not so certain in its actions ; but even here it not infrequently acts promptly, bringing on the flow at once. *Dose.*—Two one-grain permanganate of potash pills four times a day.

RINGWORM (Dr. Alder Smith).—In a large number of cases all the diseased patches were clearly marked by cutting the hair from, and for half an inch, round them ; and then all the small and recent places were blistered with glacial acetic acid, containing four grains to the ounce of corrosive sublimate. The large patches, which had probably existed for weeks or for months, were not blistered. The rest of the hair was cut, and kept moderately short during treatment. The heads were then well washed, and the following ointment was ordered to be rubbed into the entire scalp every morning, and into the diseased patches again every evening, while the head was washed twice a week: ℞. Acidi corbolici (Calvert's No 2) ʒ vj; unguenti hydrarg. nitratis ʒ x: unguenti sulphurin. ℥ ij. M. Croton oil was employed in twenty-three of the cases, either to convert small rebellious patches into kerion, or to remove a few remaining stumps. Many of the isolated stumps were loosened by gently pushing the point of a gold pin, dipped in croton oil, into the individual hair-follicles. Here I may draw attention to this very useful and practical method of removing isolated stumps, which often resist all other treatment for months. The pin should have a fine but somewhat blunted point, and should be carefully pushed a little way into the follicle, by the side of the diseased stump. The point will carry a little croton oil into the follicle, and this will generally set up sufficient pustulation to cause the loosening and expulsion of the diseased stump in a few days.

Pessaries (Dr. J. Matthews Duncan).—In the present great abundance of contorted bits of wood, and metal, and vulcanite, and what not, called pessaries, my advice to you is Punch's advice to a young man contemplating marriage—Don't! Think twice before beginning the often baneful practice of using any instrument, teaching a woman to depend on what, if not positively useful, is positively injurious, though perhaps not much so. Many a woman has suffered from, and many a woman has died of, a pessary; but most pessaries, as I find them in use, are nearly innocuous for evil or for good. They are always harborers of dirt, and they always keep the mind watching the part; they are all liable to decay, and require, if long used, to be renewed. They all are undesirable additions to the contents of the pelvic excavation, and, if they are efficient, must, of course, cause more pressure, though perhaps on different parts, than that caused by the organ or organs which they keep in an altered position. Curious things are anteflexion pessaries. In regard to their giving relief I express no opinion, but I do say that if they give relief it is not by undoing the flexion, and keeping it undone, keeping the womb straight. I have seen most kinds of anteflexion pessaries as placed by their inventors, and too often replaced and replaced, but I have never seen one materially modify the flexion. I have myself never used one, and have no intention of doing so. There is another bad and too common practice which I must not omit to mention here, that is, what is called straightening or putting up the womb or replacing it time after time by the probe or finger. This has no other effect than to irritate the organ, for the displacement recurs immediately after the probe or finger is removed, as the practice itself shows.

Pruritus Ani.—Pruritus ani, says the *New York Medical Record*, often proves a most annoying and obstinate symptom. persistently refusing to yield to our therapeutic endeavors. It is, therefore, very comforting to be assured that we have, in two well-known drugs, two equally efficient specifics. Thus, Dr Steele, of Denver, has found quinia-sulphate, rubbed up with only sufficient lard to hold it together, a never-failing specific in this affection. He uses it in both pruritus ani and vulvæ. The nearer you get to the full strength of the quinine, the more efficacious it will prove; and some other physician is similarly confident about the local application of Peru Balsam. Hence, we are told, there need be no more itching about the anus, and medicine has achieved a new triumph.—*British Med. Journal.*

CLINICAL DEPARTMENT.

Clinical Lecture on Mediastinal Tumors. Delivered in the Western Infirmary, Glasgow. By Dr. McCall Anderson, Professor of Clinical Medicine in the University of Glasgow.

Gentlemen : The patient to whom I am about to introduce to your notice presented a variety of symptoms of a somewhat unusual character, and his case is one to which attention may naturally be directed in connection with my last lecture on intra-thoracic aneurism, for the disease under which he labored is not unfrequently mistaken for it. He is a blacksmith, aged fifty-one, and was admitted on February 9th, 1883, complaining of breathlessness and of swelling of the upper extremities. His family history is obscure, but he seems to have had two sisters, both of whom are dead, one of them having died after childbirth ; while his father and mother reached the age of sixy-two. About twelve years ago, after exposure to inclement weather, he complained of a burning pain in the right infra-clavicular region, which does not appear to have been very severe, nor aggravated by respiration, and was unaccompanied by other symptoms ; it was treated by means of the application of iodine to the chest wall, and disappeared in about a week. With this exception, he enjoyed good health until the beginning of the winter 1881–82, when he caught cold and was much troubled with cough and expectoration. These symptoms never entirely left him, although he was in great measure free from them during the greater part of last summer. He remained fairly well until about four months before admission, when, after an unusually hard day's work, he got a chill and suffered from shivers. He seems to have been feverish during that night, and the next day his cough became very troublesome, and continued so afterward. From the onset of this last attack shortness of breath was increasingly complained of, until at last he was unable to lie down in bed. Two months before admission his hands and arms became swollen, but no other part of his body ; and latterly he rapidly lost flesh, strength and color.

Let me now recall the results of our examination of this patient on February 16th. He was extremely emaciated, very weak, and anæmic ; but he had no trouble with his digestive organs, and his temperature was normal. The urine was very scanty—three to twelve ounces in the twenty-four hours—high colored ; specific gravity 1033, and loaded with lithates ; but it contained neither tube-casts nor albumen. His cough was troublesome ; there were abundant frothy mucous expectoration and orthopnœa, but the pulse respiration ratio was not materially perverted. At the base of the right lung there was some fulness, marked dulness on percussion, feeble distant breath sounds, and diminution of the vocal fremitus and resonance. These symptoms led to the conclusion that there was considerable effusion of fluid in the right pleural cavity, an opinion which was strengthened by the circumstance that the liver was pushed downward, and that it did not rise and fall with the respiration. But over and above these physical signs there were others which at once aroused our attention :

(*a*) As in many cases of intra-thoracic aneurism the right radial pulse was weaker than the left; whereas in a state of health if there is any difference in the pulses at all the right is rather the stronger of the two, thus showing that there was some obstruction to the free passage of blood to the right upper extremity. (*b*) There was marked distension of the veins of the head, neck, arms, chest, and abdomen, indicating that there was some impediment to the free return of venous blood to the right side of the heart. (*c*) As a consequence of this there was œdema of the arms and hands, which was especially marked on the right side, but there was no trace of it elsewhere.

Further, on examining the front of the chest, we observed flattening in the supra- and infra-clavicular regions, so that the clavicle seemed to project considerably, while there was a distinct prominence of the lower portion of the manubrium sterni, although the patient could not say whether this had occurred recently, or was a congenital malformation. Over the whole of this area, and extending about two inches to the left of the middle line, there was very great dulness on percussion—even more intense than over the pleuritic effusion at the base; the vesicular murmur was quite inaudible, but here and there distant tubular breathing was heard. These physical signs, coupled with the three symptoms previously mentioned, led to the suspicion that there was a tumor in the anterior mediastinum, which had encroached upon the right lung, and which was interfering with the free passage of blood to the right upper extremity, and with the return of venous blood to the right side of the heart.

As regards the nature of the tumor, we came to the conclusion that in all probability it was malignant—(1) because this is the most frequent form of mediastinal tumor; (2) because of the age and sex of the patient, such disease being most frequent in males and in persons who have passed middle life; (3) on account of the rapid development of the symptoms; (4) because of the signs of pleuritic effusion, malignant tumors being very apt to excite inflammation within the chest; and (5) because of the great loss of flesh and strength, and the cachectic appearance of the patient.

A good many cases similar to this one have from time to time come under my notice, two or three of which by way of comparison may be mentioned.

On November 11th, 1874, there was admitted an iron moulder, forty-four years of age, who enjoyed good health until twelve months before admission, when a slight cough set in, accompanied in a few weeks by expectoration, which gradually increased in amount, and six months afterward, having caught a severe cold, the cough became violent and the sputa streaked with blood, and after that time he frequently brought up small quantities of blood. About three months prior to admission he began to experience giddiness, oppression, and a sense of suffocation on making violent muscular exertion, especially on stooping, lifting heavy weights, etc., but these symptoms passed off on assuming the erect posture, or after resting awhile. About the same time slight puffiness of the neck was observed, and three weeks before admission, all his symptoms being aggravated, he was obliged to give up work. He never complained of headache, but on stooping or coughing his sight became dim, everything appearing as if in a mist. During his whole illness he occasionally felt a dull aching pain, sometimes of a burning character, shooting through from the right breast to the scapula, which was aggravated by hard work; and latterly on carrying his hand backward toward his shoulder a pain seized him in front of the upper arm below the shoulder, and prevented him from completing the act. His general health seems to have been above the average, although he took stimulants pretty freely. On examining this patient's chest we observed that at the upper part of the right side anteriorly the movements of respiration were restricted, and that there was marked dulness upon percussion, which was not limited to the area of the lung, but extended across the sternum a little to the left of that bone. Over the whole of the dull space the vesicular murmur was absent, although at the apex tubular breathing and increased voice sound were present. These physical signs, coupled with the following four symptoms, led to the conclusion that there was a tumor in the anterior mediastinum. (1) The pulse at the right wrist was much more feeble than at the left. (2) There was marked dilatation of the superficial veins of the arms, head, neck, and top of the chest, especially on the right side. (3) In addition to the varicosity of the veins there was distinct œdematous swelling of the neck. (4) The breath sounds over the base of the right lung were very much feebler than on the opposite side.

Some years ago there was admitted under my care in the Royal Infirmary a ship carpenter, aged thirty-two, who gave the following account of himself: In the month of February, while at sea, he was a good deal exposed, sometimes having his clothes wet for a whole week. About this time he began to cough a little, and the cough never left him, although he improved a good deal under treatment during the summer months. In April shortness of breath set in, with general pain over the front of the chest, shooting through to between the shoulders. At this time, too, the veins of the right side of the neck and chest became distended, and the face gradually assumed a swollen and dusky appearance. During the spring he fainted three times at intervals of some weeks, on each occasion after drinking a cupful of cold water. All the above symptoms had been on the increase for three months preceding his admission. He was unable to lie upon his back, but breathed pretty freely sitting up, or upon either side, especially the left.

On examining his chest we found in the first place that there were the usual physical signs of moderate catarrh of the bronchial tubes, the cough being accompanied with some muco-purulent expectoration, but there were a great many very striking symptoms besides. For we found, on listening to the breathing on the two sides, that it was decidedly louder and more marked upon the right side than upon the left. On inspecting the front of his chest, too, the movements of respiration, particularly at the upper part, were found to be defective. There was marked dulness and increased resistance upon percussion over the whole of the sternum, more marked above, and not only over the sternum, but to a considerable extent on each side of it, especially to the left, in which direction it extended at least two inches. We noticed, likewise, that the upper part of the sternum was somewhat prominent. On placing the hand upon the chest over the dull area, and making the patient speak, the vocal fremitus was observed to be almost entirely absent, and on applying the stethoscope the respiratory sounds could hardly be heard. Then we endeavored to find out the situation of the apex beat, but failed to discover any at all. On applying the stethoscope, however, over the præcordial region, the sounds of the heart were clear and pure. They were most distinct over this region, which led to the supposition that there was no very great dislocation of the heart. On feeling the pulses at the wrists it was noted that the left was weaker than the right. But the most remarkable symptom having reference to the organs or circulation was the enlargement of the superficial veins of the face, neck, chest, and abdomen, particularly of the front of the chest and abdomen, and which was more marked upon the right side than upon the left. The most distressing symptom in this case was dyspnœa. The patient could breathe best when he was sitting up in bed, and pretty freely when lying upon either side, especially upon the left, but it was quite impossible for him for any length of time to lie upon his back with his head low, the dyspnœa became so urgent. Another feature was hoarseness, which had been observed for about three months; and there was this peculiarity about it—that if we made him turn his head to the right shoulder his voice was comparatively clear, but if toward the left, then the hoarseness became decided, and if we made him lie upon his back with his head low his voice became extremely husky. A laryngoscopic examination showed that there was congestion, but no paralysis, of the vocal cords. These symptoms and physical signs pointed to the conclusion that there was a tumor in the anterior mediastinum.

A short time since I saw a somewhat similar case in consultation with Dr. Wm. Pearson. This patient, a female, aged forty-nine, began to complain of pain to the right of the middle of the sternum, which, about nine months prior to my visit, extended up to the right shoulder. This was followed by a hard irritative cough, which was soon accompanied by slight frothy and occasionally tough mucous expectoration. To these symptoms were added distension of the superficial veins of the right side of the neck and face and right arm, and œdema, which was aggravated by exertion. At the time of my seeing her, the cough and expectoration and pain of chest continued, and she had dyspnœa to such an extent that she could not lie down with comfort. The breathing over the whole chest was harsh, but air entered both lungs with equal freedom. There was distinct prominence, associated with dulness on percussion, of the upper part of the sternum, and at the right supra-scapular region the percussion was less clear than at the left. The voice was hoarse, but the pulses were equal on the two sides, and the pupils were unaffected.

But, to return to the case with which we commenced, we felt very powerless as to even palliative treatment. We hoped, however, that by removing the fluid from the pleural cavity there might be some mitigation of the dyspnœa. This was accordingly done on February 16th, twenty-six ounces of inflammatory serous fluid being withdrawn with the aid of Southey's trocar. This, however, was not followed by any diminution of the dyspnœa, showing that it was dependent upon the pressure of the tumor, and little if at all upon the pleuritic effusion. Death put an end to the sufferings of the patient two days afterward, and on February 20th a post-mortem examination was made by Dr. Joseph Coats, pathologist to the infirmary, with the following result:

The lower limbs showed considerable emaciation. There is marked œdema of both upper limbs, especially in the right hand and forearm. Chest: the heart is of normal size. The mediastinum is occupied by a bulky tumor which extends considerably more to the right than to the left side; taking rough measurements it may be said that the tumor in its thickest part extends four inches from before backward, and five inches from side to side. The main mass of the tumor is in the fork formed by the bifurcation of the trachea, and more behind than in front; but the mass which involves the great veins is somewhat separated from the main mass and is almost equal in size. On opening the pericardium it is seen that all round at the place of issue of the great vessels, the pericardium is involved in the tumor, whose whitish-gray tissue has replaced it, and projected into the sac in lobulated masses. There is no considerable extension to the heart itself, but at the auricles the tumor tissue approaches very near to, and on the left side does involve slightly, the wall of the auricle.

On the other hand, the superior vena cava on the one side, and the pulmonary veins on the other, have their walls infiltrated and their calibre somewhat encroached on by the tumor tissue. The contraction from encroachment of the tumor is considerably greater in the case of the superior cava and right pulmonary than in the left pulmonary vein. On tracing up the superior cava its wall from the orifice to its division is completely occupied by tumor tissue, and its continuation upward into the right innominate and internal jugular is similarly involved. The left innominate and right internal jugular are entirely occluded by thrombi. The right subclavian vein cannot be traced to its junction with the innominate, its wall being apparently converted into tumor-tissue and its calibre filled up. Beyond this the vein is occupied, but only for a short distance, by a thrombus. The left branch of the pulmonary artery is not involved in the tumor mass, but the right branch passes through a considerable thickness of it, and its calibre is obviously narrowed ; but it is not determined whether its wall is actually involved or not. The aorta is not affected by the tumor. The left phrenic nerve in passing down in front of the root of the lung is impinged on by a projecting piece of the tumor and partly involved in its tissue. The extreme lower part of the trachea and both main bronchi have their walls partly replaced by tumor tissue, which presents itself internally in the form of rounded whitish nodules. The right main bronchus is much more involved than the left, and for a certain distance its wall is undistinugishable from the main tumor ; the tumor also extends a short distance into the lung, along the bronchus and its primary branches. On examining the arteries, it is found that the right subclavian carotid and innominate lie for the most part behind the mass of the tumor. The subclavian is nearer, and would be more pressed on, but it is not embedded in the mass. A microscopic examination showed that the tumor was a lympho-sarcoma.—*Lancet.*

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PROCEEDINGS OF SOCIETIES.

Address in Surgery. Some Recent Advances in the Surgery of the Urinary Organs. By Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary. Delivered before the British Medical Association, August, 1883.

Mr. President and Gentlemen: The honor of addressing you on this occasion having been conferred upon me by your Council, I cannot enter upon the task that is before me without expressing my consciousness of inability to accomplish it in the manner I would desire. This sense of insufficiency is by no means lessened when I look at the names of those who have preceded me ; when I remember the interest with which I, in common with you, listened to their words ; and when I consider how completely abreast this great Association is kept, by means of its journal, with everything relating to the progress of surgery. On the other hand, long connection with this Association gives me the assurance of having to address a sympathizing audience—one disposed to overlook defects in any honest endeavor to set forth the advancement made in our art.

Surgery, I need hardly tell you, has long been cultivated in the new city which has now the honor of receiving you. The hospitals of Liverpool, and their records, show that the same ardor prevails here as elsewhere, both at home and abroad; while its position as a school of surgery indicates that it has entered, not unsuccessfully, into honorable rivalry with its competitors. But it may be asked, especially by those visiting Liverpool for the first time, Are there no traditions here? Are there no footprints of those who have left behind them works which place us in their debt, and which will render their names famous wherever and as long as surgery is known? It seems to me that one advantage connected with the itinerant character of our meetings is, that places suggest references to local celebrities of the past, whose works cannot be thought over without advantage. In our desire to push forward, we sometimes forget to look back, and to reflect upon that which has been achieved and how it was brought about. Such reflections cannot fail to be of service in reminding us that surgery is not entirely of modern creation, that we have a few distant relations whose connection it is desirable to keep up, and that there still remain links which associate us with the great ones of the past. These links connect us, not here alone, but everywhere, with the names of Park and Alanson, to whose work I now wish for a moment to refer.

Henry Park was surgeon to the Royal Infirmary from 1767 to 1798. I cannot do better than quote a passage which our local historian, Sir James Picton, has selected (*Edinburgh Review*, October, 1872) as paying a deserved tribute to his memory. "In the latter portion of the last century, when a vigorous flash of originality seemed to light up the annals of surgery, Park, of the Liverpool Infirmary, may be said to have accomplished the first act of conservative surgery. His patient being a sailor, to whom the loss of a foot and leg would have been tantamount to the loss of his means of getting bread, determined him to make the experiment of simply excising the diseased part—the knee-joint—and retaining the foot and leg. This he did so successfully that, to use his own words, the patient some years after the operation 'made several voyages to sea, in which he was able to go aloft with considerable agility, and to perform all the duties of a seaman; that he was twice shipwrecked, and suffered great hardship without any further complaint in that limb.' This was a crucial test of success, that should have stamped the operation as one of the greatest surgical triumphs of the time; but, like so many other great strides taken in that age of extreme vivication, it was in advance of its fellows, and was destined to be arrested for the better part of another half-century."

I need not on this occasion dwell on the claims that excision of the knee-joint has to be regarded as one of the recognized operations in surgery. Though there may be differences of opinion in reference to the circumstances indicating it, there can be no doubt that it will forever remain as a brilliant memorial of the surgeon whose name is associated with it.

Of Mr. Alanson, Park's colleague, and surgeon to the Royal Infirmary from 1770 to 1794—whose work has been aptly referred to by Mr. Sampson Gamgee* as "one of those forgotten surgical classics which I would venture strongly to impress on the attention of my younger brethren"—I will speak in the following passage from the Presidential Address of the late Dr. Vose, delivered on the last occasion this Association met in Liverpool: "To Mr. Alanson, formerly a surgeon to our Royal Infirmary, we are indebted for many important suggestions, made at a time when the science of hygiene was but little regarded anywhere. His remarks upon the ventilation of hospitals, the use of iron bedsteads, the necessity of frequent whitewashing, and the establishment of sanatoria in the pure air of the country for convalescent patients, testify to the correctness of his professional judgment, and to his zeal for the welfare of his fellow-creatures. It is by his treatise upon amputation, however, that the memory of this gentleman, as an original thinker in surgery, has the strongest claims to our gratitude and regard. He tells us that, among upward of forty amputations performed upon the old system, which had come under his notice, ten died of tetanus, two of bleeding, three from mortification, four from exhausting suppuration ; while eighteen experienced hemorrhage, and nearly all had excessive fever. Most of the patients suffered from exfoliation of bone, conical stumps, or wounds that would not heal. After the adoption of his improved method of procedure, he had the satisfaction of being able to announce that, out of upward of thirty amputations, taken indiscriminately, which were performed at the infirmary, not one died, and none had secondary hemorrhage ; while, in a month after operation, the wound was either altogether, or as nearly as possible, healed in all the cases."

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*"Transactions International Medical Congress," 1881, vol. ii., p. 352.

As is well known, Alanson's method of amputating, provision was made for the covering in of the bone, after its section, by the integuments.

Such, then, are illustrations of the useful work which was being done by surgeons in this comparatively modern city about one hundred years ago. Gratitude for improvements, the value of which is still fully and freely acknowledged, justifies the foregoing references to the work of these distinguished men.

The selection of material for presenting to you to-day has occasioned me no little anxiety. Following immediately upon an address which will forever render our jubilee year memorable—an address in which justice was done, by the distinguished representative of surgery from Ireland, to the great subject of surgical progress generally, while its prominent features were forcibly brought out, I may well hesitate where to tread.

In considering the history of surgery as detailed in Mr. Stokes's admirable address, the thought naturally occurs that its diffusion is as remarkable as its progress. Compare, for example, the condition of surgery prior to the existence of our Association with its position as set forth in the columns of our own journal, or in those of the other great representative of medical opinion in this country, the *Lancet*. In the former period, departures from the ordinary routine of surgical procedure were confined to a few hands, and the benefits resulting from improved methods of treatment were shared in by a very limited number. Now, no sooner is a method of treatment or an operation proved to be efficient, than it is taken up and practised wherever scientific surgery can reach ; the peer is no better off than the peasant, and the cottage hospital rivals in its successes those obtained in more palatial edifices.

So beneficently catholic is our profession that it hails with the greatest satisfaction, not only the discovery of new means of relief, but the adaptation of others to a form which permits of their more general adoption and usefulness ; while, on the other hand, it regards with suspicion all methods of treatment which unnecessarily restrict or conceal that which was intended for the common good.

I propose to occupy the remainder of the time at my disposal by a reference to some of the more recent advances and work in connection with the surgery of the urinary organs.

Commencing with the kidneys, we are at once struck with what surgery is doing for them. Until quite recently, the diseases of these organs were regarded as belonging almost exclusively to the province of the physician, and probably they would have remained so had preventive medicine obtained fuller development.

A more extended acquaintance with the pathology of the kidney has brought to light conditions in which the work of the physician requires to be supplemented by that of the surgeon. Pain arising from an undue mobility of the organ, tumors, deposits, hemorrhages, and collections of fluid within it—all these morbid states are now recognized as capable of relief or cure by fixing, opening, or extirpating the abnormal or disordered organ ; while numerous illustrations have already been afforded of the successful removal of stones from positions where they must have ultimately led to the disorganization of the kidney in which they had become impacted.

It would be premature at present to endeavor to formulate anything like precise rules in reference to the application of the various operations on the kidney to which I have briefly referred ; they are at present comparatively new to us, and we must occupy ourselves in cautiously moving in the direction they indicate, and in collecting experience rather than in drawing conclusions other than very general ones.

Among many valuable contributions to the literature of this subject which have appeared, I would include one by Dr. R. P. Harris (*American Journal of the Medical Sciences*, July, 1882), of Philadelphia, which contains an analysis of one hundred cases of nephrectomy. From this, as well as other communications which have more recently been published in this country, we may draw at least three conclusions of value, so far as the operation of extirpation of the kidney is concerned. These are :

1. That nephrectomy has been the means of saving many lives under circumstances where no other method of treatment was likely to be of service ;

2. That this operation has been practised in cases where the probability of a successful termination appeared to be very remote ; and

3. That a method of effecting the removal of the organ different from that which was selected, or a procedure less heroic, might, in some instances, have tended to increase the chances of success.

In these directions, then—in selecting cases for operation, in rejecting others as unsuitable, and in determining relatively to the case in question the best method of procedure—I take it that good work has yet to be done.

It appears to me that among the difficulties we have to contend with in the application of nephrectomy, two stand out prominently : (1) the kidney it is proposed to remove may be the only one ; (2) the opposite organ may be similarly affected, though in a less degree, yet sufficient to interfere with those compensatory changes being carried out which are essential when one excretory organ has to supply a lack of service on the part of another. The literature of this subject will already be found to illustrate the class of difficulties to which I am referring.

The lesser proceedings, which include the exploration of the kidney, and the removal of calculi and of pent-up fluid, are necessarily attended with a diminished risk, and have already proved of much value.

In undertaking a new class of operations, we must bear in mind the past history of many methods of treatment, now justly regarded as successes, but which, severally, had a very unpromising commencement. Look at the unsatisfactory position held by ovariotomy only within a period represented by the memory of the majority of us here present to-day. Yet the high dignity to which it has been raised in the rank of surgical operations, by the skill and enterprise of Sir Spencer Wells, Keith, and others, is now frankly and fully admitted by the whole medical world.

In the treatment of certain affections of the bladder, we shall find that much progress has been made, and that the way has recently been opened for prosecuting other important advances. These will be chiefly illustrated by the modern practice of lithotrity and the treatment of tumors and intra-cystic growths.

Till a few years since, the removal of stone from the bladder by crushing had been conducted on the lines laid down by Civiale some half-century ago. Though this method of proceeding has included among its advocates, past and present, surgeons of eminence, it cannot be said that, as then practised, it was either gaining ground or confidence. Indeed, I think I may say there was an increasing tendency to limit its application and to substitute lithotomy in all cases but those of the simplest kind. The mortality consequent upon the retention of broken calculi within the bladder was sufficient to induce all but the most ardent admirers of lithotrity to hesitate to give it the preference over a proceeding in which, whatever might be the risks, there was at least a guarantee that the whole of the stone had been removed.

While the surgical mind was thus to some extent in doubt as to the limits to which the crushing operation of stone might safely be pushed, two important communications followed rapidly upon each other. That both of them should have emanated from America merely indicates that the desire to advance the art of surgery is not limited to the old country, but is a natural outcome of advancing civilization and humanity.

The first of these papers was by Dr. Otis, of New York, who demonstrated beyond all reasonable doubt, and in a manner which had not previously been attempted, that the male urethra was capable of safely receiving far larger instruments than were generally employed. Following upon this, and probably influencing the views of the author, came Dr. Bigelow's paper on the removal of stone from the bladder by crushing and withdrawing it at a single operation; the latter communication clearly showing that the bladder was tolerant of much more prolonged manipulation than had previously been believed.

It appears to me that the originality of Bigelow in no way detracted from the importance of the work that had previously been done in this country and elsewhere, or compromised the acumen of those who were most interested in the progress of this department of surgery.

That Bigelow's method of procedure is a great step in advance—that it has extended the limits of lithotrity and curtailed those of lithotomy—there cannot be the least doubt. But to suppose that it is capable of universal application, or ever likely to be so, is as unreasonable as to suppose that the art of surgery in no way differs from the art of administering Holloway's pills. But does the lithotrity of to-day represent the finality of its perfection? I trow not. When we consider what chemistry, electricity, and other agencies are doing—how physical force is in many directions being supplanted by other means—can we doubt that there are yet improvements in store in the methods of effecting the destruction of concretions within the body? Nay, are there not already significant indications that such improvements are nigh at hand? Is it likely that the fruit of the labors of Garrod, of William Roberts, of Ord, of Vandyke Carter, and others has been already gathered? May not a more perfect knowledge of the physical and physiological laws which regulate the production of concretions in the human body result in enabling us not only more surely to prevent them, but to destroy them?

Considering the great activity that has within recent years been shown in demonstrating the preventable nature of many diseases, and the energy that has been displayed in grappling with them, it seems remarkable that no adequate steps should have been taken to ameliorate the hygienic condition of certain parts of this country where the amount of calculous disease is excessive, and the inhabitants, consequently, are exposed to an inordinate risk of contracting it. The admirable address by Mr. Cadge before our Association at Norwich, in 1874, furnishes abundant data for the further prosecution of inquiries of this kind. I cannot help thinking that if it could be shown to be even probable that the dogs, cats, rabbits, or frogs of the aforesaid districts were inconvenienced in a like manner with their owners, the matter would long ago have been forced upon our legislature with all the exaggeration that usually characterizes agitations of this kind.

Though surgery has invariably shown itself equal to the circumstances and emergencies with which it has been called to cope—though the prevalence of stone in a district has always been compensated for, as far as this is possible, by the appearance of those most competent to deal with it—these are no reasons why such conditions should be permitted to continue. Had time or occasion offered, I think it would not be difficult to prove that circumstances, either fortuitous or by design, have been found to exercise a marked influence in diminishing or increasing, in certain places, the tendency to calculous disease.

One word in reference to lithotomy before I leave the subject of stone. There is no great operation in surgery, I believe, which furnishes more successful results than this. Taking the experience of the two hospitals in this city with which I have been associated, I find there have been within my recollection 102 cases of lithotomy in persons of all ages, but chiefly in children, and operated on either by my colleagues or by myself. In only five of these cases could I ascertain that a fatal result followed. My late esteemed friend, and our former associate, Mr. Southam, speaking of his own experience of lithotomy at Manchester, informed me that he had operated 120 times, and could only recall one death. In the great majority of the Liverpool cases the stones were not exceedingly large, and I have no doubt that many of them might have been removed by lithotrity. I question, however, whether the small mortality these figures indicate would thereby have been still further diminished, even if the calculation were made on a basis corresponding with the most successful statistics in lithotrity that have hitherto been obtained.

Passing to tumors of the bladder, it is not surprising, seeing what has been done for tumors of the ovaries, uterus, and intestines, by Sir Spencer Wells, Keith, Lawson Tait, Treves, and others, that growths occupying the interior of the bladder should have received special attention. Though the literature relating to this subject has been of a somewhat fragmentary character, such compilations as Stein's recent work, "A Study of Tumors of the Bladder," conclusively show that some gratifying results have already been attained in both sexes. The great distress connected with this class of growths, the uncertainty as to the precise nature of the affection, in the first instance, and subsequently the kind of symptoms that accompany it, have naturally suggested the employment of means, having for their object their removal by operation.

Sir Henry Thompson has done good service in giving prominence to the employment of digital exploration of the bladder, and in furnishing illustrations of the great advantage that this proceeding is capable of affording in suitable cases.

From a consideration of some of the extremely valuable records which have been published by various surgeons, where the bladder has been opened for the removal of tumors, it appears to me that it might have been better had the operative proceeding terminated with the detection and exploration of the growth by the finger. The chief dangers which experience has shown to be liable to attend the performance of this class of operations, are :

1. The chance of rupturing a bladder, the coats of which have been rendered less resisting than natural.
2. The provocation of a hemorrhage, which it has been found difficult to control.
3. An incomplete removal of the growth.

On the other hand, an examination of many tumors of this kind, of which villous growths or tufts furnish the best examples, shows that there is nothing in their connections or relations which need necessarily interfere with their complete removal. Precise information as to the presence and attachments of these growths we may now obtain with comparative safety. Whether their removal is to follow upon their discovery will be a matter for further consideration.

With a view of extending our knowledge of these growths, a committee of this Association is occupied in collecting information relating to them. The report of this committee will, I hope, form the basis of an interesting discussion in the pathological section, which will be opened by Mr. Paul.

I now come to speak of the prostate, and I shall do so in reference to the part it takes in obstructing micturition, for the reason that it is this symptom which, in some form or other, brings the patient under our care. It appears to me that enlargement of the prostate is specially interesting to us in relation to its earliest, and to its most advanced, forms, and it is to these that I shall more directly refer.

If we take the obstructive disorders of the urinary apparatus, and inquire what feature of them is most detrimental to the associated parts, the answer undoubtedly will be, the misdirection of the muscular force that is thereby entailed. How can we explain the structural alterations which take place behind the obstructed point, and which manifest themselves in different ways, except as the results of urinary retention and retrograding pressure ? How frequently do we find, in cases of stricture or enlarged prostate, that the whole of the apparatus behind the primary constriction consists of little else than dilated saccules and tubes. Is not this distinct evidence of back-pressure going on, though it may be imperceptible, from the moment that impediment arises to the escape of urine from the bladder ? The more we study animal mechanics, either in their physiological or pathological application, the more can we appreciate the truism that force is never lost. If it is not permitted to act for good, it must be productive of evil ; if it is not exerted toward the legitimate fulfilment of a normal act, it must inevitably exercise a corresponding pressure in an abnormal direction. Whenever I see, in the *post mortem* room, an ordinary specimen of dilated kidney, tortuous ureter, or sacculated bladder, associated with an enlarged prostate, or a stricture, the expression " misdirected force" almost involuntarily escapes from me.

Such considerations as these have long led me to believe that our treatment of prostatic stricture—or by whatever name we know it—commences, as a rule, far too late ; we delay until the bladder shows, by the formation of a pouch, or a saccule, behind the prostate, the first bad influence of back-pressure before we seek to rectify it.

I have endeavored to prove how much good may be done by the adoption of judicious mechanical treatment on the appearance of indications that the prostate is commencing to obstruct micturition ; and I have founded my suggestion upon a condition which may be seen illustrated in any museum—viz., one in which, though the gland has become large, obstruction has not been known to occur. An extended adoption of this practice has convinced me that the pressing symptoms connected with an enlarging prostate may be kept in abeyance by the timely employment of those principles of treatment which are generally recognized as being applicable to any tubes within the body which are threatened with occlusion, and are within our reach.

In the more advanced forms of prostatic enlargement, where the bladder has been converted into a receptacle little better than a chronic abscess in which urine stagnates, surgery has done much to afford relief.

When the comfort that catheterism is capable of affording has ceased to be effectual, other plans of establishing a drain for the urine are at our disposal. It is not necessary that I should discuss the various means of effecting this; let me, however, say a few words in reference to two which have more recently come under notice: these are—first, incision into the bladder from the perinæum; and, secondly, paracentesis through the enlarged gland.

For the purpose of securing a more or less permanent channel for the escape of urine from the bladder, other than by the urethra, I must admit that, following the practice of Syme, and to some extent of Edward Cock, I have a decided preference for an incision through the perinæum, on the twofold ground of safety and comfort. We have had numerous examples of the great benefit that cystotomy is capable of affording for bladder-affections dependent upon a large prostate—none perhaps more striking than the case narrated by Mr. Lund, on the memorable occasion of the meeting in London of the International Medical Congress. The paper closes with this observation: "I have thus placed on record this case, unique in its character, and interesting and encouraging in its results, with the hope that, should a similar case occur to any surgeon now present, he will not hesitate to give his patient the chance of benefit from a course of procedure so simple in its nature, and so likely to be followed by temporary, if not permanent, benefit." ("Transactions of the International Medical Congress, vol ii.)

I may be permitted here to submit to your notice a method of puncturing the bladder through the enlarged prostate which has afforded very gratifying results. It consists in passing the trocar through the gland, and retaining it in the perinæum, so as to afford a permanent as well as a convenient drain for the urine. I should have had more diffidence in commending this operation to your notice had it not received the approval of our distinguished associate, Professor Gross, whose contributions to the surgery of the urinary organs are held in deservedly high repute on both sides of the Atlantic.

Though the primary object of cystotomy, as usually practised, is merely to place the bladder at rest by providing a continuous drain for the urine as well as the products of cystitis, it occurred to me, as it had already done to others, that it would be possible to extend this proceeding, with the view of removing those barriers to micturition which the hypertrophied gland so frequently presents.

It was to meet conditions such as these that Mercier introduced and practiced division of the prostatic bar by means of a cutting instrument introduced along the urethra. This plan, though admirable in its conception, was open to the objection that in its execution it was necessarily uncertain, there being no means of surely ascertaining that the section was confined to the obstruction to be removed. On carefully considering the position of matters, as well as the proposals that had been made, it appeared to me more reasonable to attempt to divide the prostatic obstruction at the neck of the bladder from an opening made into the membranous urethra, than by means of instruments which had to traverse the whole length of the canal. I have recently brought under notice a case (*British Medical Journal*, June 9th, 1883) in which I thought it desirable to explore the prostatic urethra from an opening made in the perinæum, and through which I was enabled to divide with precision a prostatic barrier. The division of this portion of the gland was followed by complete restoration of the power of micturition, and has so far proved of permanent advantage.

The proceeding which I have thus put into practice seems first to have suggested itself to Mr. Guthrie, but I cannot find that he ever employed it. That it is not identical with the somewhat extensive incision of the prostate as for lateral lithotomy, which was practised by Sir William Blizard, is at once obvious. Its aim is to divide the obstruction—and the obstruction alone—by an opening so planned as not to expose the patient to undue risk; while, at the same time, it is capable of affording the greatest amount of room for manipulation by an extension of the incision, should this be found to be necessary.

I need hardly observe that a proceeding of this kind should be undertaken before the bladder has passed into a condition of confirmed and irremediable atrophy; otherwise, though we may succeed in removing an obstacle to the introduction of the catheter, our prospect of restoring the power of micturition will be as hopeless as it has proved to be under somewhat similar circumstances where the operation of lithotomy has been undertaken.

It is impossible to avoid the conclusion, from their examination after death, that many atonied bladders might have been prevented becoming so by the timely removal of the obstruction by which a condition of permanent paralysis was induced and maintained.

The operative treatment of the enlarged prostate, when it obstructs micturition to a degree that cannot be met by judicious catheterism, is yet, I believe, open to considerable improvement.

Though the literature relating to either complete or partial excision of the prostate is very limited, there is much in it of promise. In one case, where I extirpated the whole gland for malignant disease, the benefit that followed far exceeded my expectations. It was that of a middle-aged man, who, by reason of a carcinomatous prostate, was threatened with a speedy and painful death. I cut down upon the gland in the median line, and succeeded in enucleating it tolerably cleanly with my finger. I saw this patient eight months afterward in very fair health, and quite able to go about his business. So far, he has enjoyed an immunity from the symptoms which induced me to perform this operation; and, though this disease is a malignant one, we have every reason to be content with the results obtained.

Then we have numerous examples where considerable masses of the prostate have been removed with very great advantage in the course of operations on the bladder. Among these, I would specially mention an important case by Mr. Bickersteth ("Royal Medical and Chirurgical Society," 1882); and, more recently, another by Dr. John Ashhurst, of Philadelphia, in which the whole of an enlarged third lobe was successfully removed.

Cases such as these seem to favor the hope that operative surgery will be found capable of affording more relief to exceptional instances of this kind, and of extending to the large prostate the treatment which in some degree is applicable to other deep-seated growths.

Passing to the urethra, I would again take the opportunity of adverting to the value of Otis's work in regard to the dimensions and dilatability of this canal; if he had done no more than contribute to the improvement of lithotrity—and this cannot be questioned—we should still be largely in his debt. I cannot, however, follow him in his views relating to the performance of internal urethrotomy as a means of treating stricture of the urethra. My impression is, that this operation is losing instead of gaining ground in the opinion of many who have ample opportunities of judging fairly of its merits. That it is an operation fitted for the treatment of stricture in its early stage is a conclusion I am disposed to take exception to, on the ground that it is neither necessary nor safe as compared with other methods. I believe that, in its early stage, stricture may be successfully combated by the employment of thorough cleanliness combined with the judicious use of dilatation, as we are accustomed to practise it in this country.

If internal urethrotomy gave a greater immunity than other operations from a recurrence of stricture, or did away with the necessity for subsequent mechanical dilatation, then, perhaps, with the view of avoiding other risks to which all persons suffering from stricture are liable, I might feel more disposed to employ it; but, as such is not the case, and the risk attending its performance is not inconsiderable, I cannot concede the importance which is claimed for it by its more ardent admirers. That internal urethrotomy in some cases is a necessity—as by it we are enabled to render amenable to treatment a stricture hitherto intractable—I am willing to admit; but to recommend it as capable of effecting a permanent cure is quite another thing.

The treatment of impassable stricture of the urethra has received an important addition by the practice which Mr. Wheelhouse has introduced, the great credit of which he seems desirous rather of sharing with his surgical colleagues than of appropriating to himself, as I see he always refers to it as the "Leeds operation." Like other conditions which may be spoken of as relative to something else, rather than as fixed or defined, the impassable stricture is, I believe, gradually becoming rarer, a circumstance which is largely due to the great improvement that has taken place in the construction of instruments specially adapted to their treatment, among which I may mention the filiform bougies and the tunnelled instruments of Gouley, of New York. For the purpose intended, I do not think there is any proceeding equal to that which Mr. Wheelhouse has introduced, and I have no hesitation in including it among the improvements to which I am now referring.

Permit me, without apology, in this mechanical age, where invention after invention for the treatment of stricture comes upon us with marvellous rapidity, to claim a moment's consideration for what Mr. Savory has called the medical aspect of this question. We all know what irritation is: there is such a thing as irritation of a stricture, either by what passes through it naturally or is introduced to correct it. Let us not disregard, as a principle of our treatment, the importance of securing for the urethra that physiological rest of which the late Mr. Hilton wrote so well.

The question may here very properly be asked whether, in our search for novelties as improvements in treatment, we have discovered any new diseases, the better management of which, by reason of our recent acquaintance with them, we may in all fairness leave to our descendants to determine. The admirable Bradshaw Address of Sir James Paget will, no doubt, have the effect of quickening our perceptions in this direction.

Though I cannot point to any discoveries of this kind as affecting the region which is now occupying our attention, I may note one gratifying result of extended clinical and pathological investigation: I refer to the juster assignment of symptoms to the causes producing them—symptoms which, not very long ago, were looked upon as constituting independent diseases. But, if we have not discovered any new diseases, we must remember that varying circumstances may at one time add intensity to some disorders, and considerably modify the progress of others. I have a strong impression that the times through which we are passing, characterized as they are by the production of great and continuous nerve-tension, have brought into prominence a state of brain-strain which is apt to show itself in any organ which may happen to be deranged or is overtaxed.

A recent author seemed rather to conclude that tension of this kind was most injuriously felt and shown by our American cousin, while the Britisher, for some reason or other, was less influenced in this manner. Whether this be so or not, I am not prepared to decide, but I am disposed to believe that purely nervous affections—affections associated, as far as we can determine, with no obvious structural alteration—are more common than they used to be. That they occasion much distress, and cause persons who suffer from them to be unduly apprehensive, will be generally admitted. Nay, further, by their mimicry of more certain diseases, they induce a condition of anxiety which is often intolerable. It is well, too, to bear in mind that the interpretation of symptoms, as also their prevention and amendment, are frequently to a large extent dependent on a recognition of the possible existence in a patient of exaggerated nerve-tension.

Before an audience of this kind it would be presumptuous on my part to indicate in detail the many improvements that have taken place in the treatment of surgical disorders of the urinary organs; further, where there have been so many contributors toward this progress it would be invidious for me to particularize.

Let me, however, in common fairness to those to whom we are much indebted, say one word in reference to the advance that has been steadily made in the construction of the means and appliances used for these purposes.

I can remember some instruments which five-and-twenty years ago, or even less, were regarded as improvements, but have now passed into obscurity or to the shelves of the museum. In no department of applied mechanics has greater perfection been obtained than by the surgical mechanician, and nowhere is this better illustrated than in the instruments employed in the treatment of urinary diseases.

It seems almost ungenerous, after referring to several proceedings of an operative kind, the doing of which entail pain and involve risk for the sake of advantages to follow, that I should allow to pass unnoticed the work of those who have removed the one and lessened the other. In chloroform and anæsthetics we have a priceless boon, without which surgery would long ago have been at a stand-still, and many persons now living in comfort and enjoyment would ere this have ceased to exist. I am not old enough to remember the pre-anæsthetic age; and, therefore, am unable to draw a contrast which will be a vivid one to some of the "elder brethren" I am addressing to-day. I am reminded, however, of an incident bearing upon such a contrast, which, with your permission, I will briefly relate.

Some two years ago, a sea-captain, a patient of mine, and by no means a bad amateur doctor, on returning from sea, told me somewhat gleefully that he had successfully performed an amputation. While his ship was at

Ruruta, an uncivilized island in the South Pacific, a poor native got his arm entangled in a sugar-crushing machine. As there was no doctor on the island, my friend the captain was summoned, and at once saw the necessity for removing the shattered fragments of the limb. The shrieks and struggles of the powerful aboriginal were most fearful. Recognizing the necessity for taking steps to save the man's life, the captain hurried off to his ship, and returned with the necessary implements, together with a quart of the newest and most potent rum. In the absence of chloroform, he induced his patient to swallow this fiery compound, wine-glassful after wine-glassful, until intoxication was induced, and subsequently profound alcoholic insensibility. Then the tournequet was applied, and amputation successfully performed. Recovery rapidly took place. So pleased was the savage with the effects of anæsthesia that he subsequently offered to let my friend cut off some of his toes provided that the process of inducing insensibility was repeated.

Next in importance to chloroform and anæsthetics are those means which have been recently promulgated for diminishing some of the greater risks contingent upon wounds and surgical operations. About antiseptics, I desire to speak in no uncertain terms. Though our views may not be unanimous, though some of us may be sceptical about the import of germs, and of sprays, and of other details, can we doubt that when the surgical historian of the nineteenth century has to recount the men as well as the measures that have favorably influenced the progress our art has made, the name of Lister will occupy a conspicuous place?

I have now done. It has not been my amibtion to hold up to you a golden calf; to attempt to dress it in flowers of rhetoric and to ask you to worship it. I have rather endeavored to remind you of some of the directions in which surgery is now travelling, and to estimate in a measure the pace at which it is going. It is impossible to engage in a work of this kind without a full conviction that though our art is an imperfect one, it is distinctly a progressive one. In the course of your visit to this, which has been aptly referred to as the second city of the empire, you will find almost all the arts and sciences laid under contribution for the development of commercial enterprise. The activity displayed in the promotion of trade and commerce will probably suggest the inquiry whether *we* are constantly progressive, whether *we* are in correspondence with the times in which we live.

There need, however, be no hesitation in asserting that, whether we are regarded as preventers of disease, or as practitioners of medicine or of surgery, every one of us, in his daily practice, is constantly demonstrating that, year by year, something additional is contributed by our profession to the comfort and the life of man.—*Brit. Med. Jour.*

American Microscopical Society.—The sixth annual meeting of the American Microscopists was held in Weber Music Hall, Chicago, August 7th, 8th and 9th, 1883.

Those present were: Drs. W. L. Clarke, Canandaigua; H. A. Johnson, Chicago; A. H. Chester, Hamilton College; W. S. White, Kalamazoo; R. Abraeim, Syracuse, N. Y.; J. Frank, Buffalo, N. Y.; W. H. Walmsley, Philadelphia; H. D. Kendall, Grand Rapids; H. Mills, Buffalo; A. McCalla, Fairfield, Iowa; G. E. Blaskom, Dunkirk; E. H. Griffith, Fairport, N. Y.; G. W. Taylor, Thibodeaux, La.; F. S. Newcomer, Indianapolis; G. E. Fell, Buffalo; S. S. Kellicott, Buffalo; J. D. Cox, Cincinnati, Ohio; W. J. Lewis, Hartford, Conn.; S. Hudson, Medina, Ohio; F. M. Hamlin, Auburn, N. Y.; Lester Curtis, Chicago; Ada M. Kenyon, Buffalo; W. J. Vaught, Buffalo; Mary F. Hall, Buffalo; S. M. Mosgrove, Urbana; F. Peterson, Buffalo; Wm. Humphrey, Jackson, Mich.; C. Shephard, Grand Rapids, Mich.; J. O. Stillson, Evansville, Ind.; Adolph Feid, Columbus, Ohio; W. O. Clapp, J. Sloan, and C. A. Vutti, New Albany; Vinton Hall, Syracuse, N. Y.; F. P. Peck, Mount Pleasant, Iowa; C. Wellington, Detroit; W. F. Yokum, Fort Wayne; J. Peterson, Oquawka, Ill.; C. M. Daniels, Buffalo; B. W. Sherman, Chicago, Dr. R. J. Munn, Savannah, Ga.; E. Hurlburt, Utica, N. Y.; Alexander Bartlay, St. Paul; Dr. J. H. Lobdall, Flat Rock, Mich.; Dr. C. S. Dailey, Rochester, N. Y.; G. A. Hiersol, Philadelphia; T. J. Kirkpatrick, Springfield, Ohio; C. D. Zimmerman, Buffalo; W. Hoskins, Chicago; J. H. Barney, Elmira, N. Y.; G. Whitmore, Elmira, N. Y.; Dr. W. M. Gibson, Utica; William Farnell, Macon, Ga.; W. J. Lewis, Hartford, Conn.; T. Thibodeaux, Thibodeaux, La.; Dr. F. W. Werner, Joliet; J. A. Bidaman, Buffalo; Dr. Jeannette B. Greene, New York City; Newton Hall, Jr., Syracuse; E. Pinkney, Dixon, Ill.; J. Craig, St. Joseph, Mo.; R. E. Turner, St. Joseph, Mo.; Dr. C. B. Steman, Fort Wayne; C. H. Halowel, Topeka, Kan.; L. R. Hartman, Fort Wayne; Professor C. R. Dryer, Fort Wayne; C. L. Olds, Fort Wayne; Dr. G. W. McCaskey, Fort Wayne; Dr. M. B. Moody, Buffalo; H. D. Crawford, Ottumwa, Iowa; Dr. Emma Underwood, Seaford, Del.; F. L. Davis, Evansville, Ind.; A. P. Erker, St. Louis; Dr. W. R. Mandeville, New Orleans; A. W. Smyth, New Orleans; R. M. Girling, New Orleans; J. Kruttsnitt, New Orleans; Mary H. Wheeler, Pittsfield, Mass.; J. F. Clarke, Fairfield, Iowa; F. P. Harned, Camden, N. J.; F. C. Mathews, Springfield, Ill.; T. L. James, Fairfield, Iowa; E. J. Hill, Englewood, Ill.; F. S. Johnson, Chicago; F. R. W. Mercer, Chicago; Charles S. Fellows, Chicago; L. D. McIntosh, M.D., Chicago; C. Wellington, Detroit; the Rev. L. A. Reed, Springfield, Ill.; G. E. Loring, Toledo, Ohio; E. Posen, Denver, Col.; J. Elsner, Denver, Col.; Prof. Strong, Grand Rapids, Mich.; Dr. C. M. Nutt, New Albany, Ind.; Henry L. Tolman, Chicago; J. M. Pilsbury, M.D., Chicago; A. Woolley, Warsaw, Ind.; Drs. H. Gradle and E. S. Bailey, A. L. Woodward, Syracuse; Rev. J. D. Zimmerman, Syracuse; W. G. Blish, Niles, Mich.; A. K. Crawford, M.D., Chicago; D. H. Worthington, M.D., Fairfield, Iowa; S. T. Boyd, Fairfield; B. F. Nourse, Chicago; Prof. J. M. Mansfield, Greencastle; Dr. I. V. Clevenger, Chicago; C. Johnson, M.D., Baltimore; G. R. Dunham, Chicago; William Titterington, Chicago; Mrs. J. F. Crawford, Chicago; C. D. Hammil, Chicago; Mrs. H. M. Fox, M.D., Chicago; Prof. Ira W. Allen, Chicago; Dr. G. H. Hopkins, New York; F. S. Smyth, Battle Creek; Prof. Farnsworth, Peru, Neb.; W. T. Belfield, Chicago.

Dr. Lester Curtis, of Chicago, delivered a short address of welcome, in which he said this was a busy city, and while business and traffic were its main features he was glad to see that it was not altogether without scientific study and society. It was not to be expected that a great rushing city like Chicago could give so much time to higher culture and scientific research as the Eastern cities, where steadiness in the market was characteristic, but she was doing good work. After prayer by the Rev. Mr. Hill, the President of the society, Dr. Albert McCalla, of Fairfield, Iowa, presented his annual report.

A SCIENTIFIC PAPER.

Dr. F. M. Hamlin, of Auburn, N. Y., then presented a paper on "The Detection of Seminal Stains," in which he gave his method of examining fabrics so stained with a view to detecting spermatozoa. The doctor had found it best with silk or linen, or other close fabric, to cut out a piece and place it under the glass, after it had been placed for a time in pure water. With cotton goods, the best way was to separate the fabric, and in woollens to shave off a particle. He had found this better than all other methods.

Dr. George E. Fell, of Buffalo, indorsed this plan, and spoke of several cases in his own experience. He had been able to convict a man of attempted rape on a small child by the evidence thus gained.

Dr. Lewis spoke in favor of the plan, and believed that the same method could be employed in proving blood-stains. He had proven blood-stains in a case of murder.

Dr. Stillson, of Evansville, had had some experience with blood-stains, and in a case of murder he had been able to show that the stains on the wall of a room, on a satchel, and on the clothing of the man murdered were the same, because the corpuscles were the same. But he could not swear that they were human blood. He believed that this method was a good one, and also indorsed Dr. Hamlin's paper.

The method described is old, and it has no practical value from a forensic standpoint.

The second paper of the session was by Professor Sarah F. Whiting, of Wellesley College, on "College Microscopical Societies." The questions were how could such societies be made a success, and what would be their advantage? Microscopy was more used than almost any other branch of science. It was used by the physician in difficult cases. The essayist pointed out the way to make such study attractive, and showed the advantages of such. There were many investigations interesting which did not belong to any of the studies in the regular college course. There should be regular meetings held, at which papers should be presented and experiments made. There had been such a society in Wellesley College for six years, and it had been a decided success. There had been no lack of interest, and the society had secured a valuable collection of instruments.

Dr. Blackman, of Chicago, thought the cause of so many failures in microscopical societies was the attempt to do too much and carry the investigations too far. They plunged at once into the unknown and unknowable. No one at a local society should be allowed to bring into use a glass larger than one inch.

Dr. Hudson spoke of the general use of the microscope and how even children might be taught to use it with skill and to advantage.

Mr. Hall, of Syracuse, hoped the paper would be published in college papers, that the subject might be brought before the students. He moved that, with the permission of Professor Whitney, copies of the paper be sent to college societies, with a view to encourage the organization of such societies as suggested. The motion was carried and the Secretary ordered to send off a number of copies of the paper to college societies.

Dr. Newcomer, of Indianapolis, said he represented the society with the longest name—the Biological Section of the Indianapolis Lyceum of Natural History. The only way to make this study a success was to educate the young to the use of the microscope.

The President called attention to the want of a knowledge of microscopy in the medical profession. Dr. Fell, of Buffalo, said that 80 per cent of the physicians were ignorant of the use of the microscope. Dr. Hudson said he believed that fully nine-tenths of the physicians practising knew nothing about the use of the microscope. Some of them even laughed at the use of such an instrument. But they should all know something about it, and no physician should undertake to diagnose a case of kidney trouble without the use of the microscope. There was not a gentleman present who could distinguish between quinine and morphine by simply looking at it or tasting it. He was glad the President had given the doctors a rub, for they needed it.

Microscopy as understood in this association is deservedly neglected by physicians. Dilettanteism is an incubus on the profession, and this association has done nothing to make its members anything but dilettante, who like "nice little diatoms" or "nice little sections," but are unable to see that these are only means to an end.

Dr. Stillson read a paper prepared by Professor S. H. Gage, of Cornell University, on "Cataloguing, Labelling, and Storing Microscopical Preparations." He first gave the various plans for cataloguing specimens. He then described a cabinet for storing such specimens. This paper was also discussed, each gentleman showing his cases and telling how he took care of his specimens.

The annual address of the President, Professor McCalla, of Fairfield, Iowa, was a careful review of microscopy and the methods of verification of microscopic observations. He spoke of the nineteenth century as the scientific age of the world, and said in this the microscope stood most prominent, because it was as a sentinel guarding us from many dangers of disease. It taught us how to analyze the texture of material and know its values. We were enabled to find the metal in the ore. It was also an unerring detective, whose evidence the murderer could not escape. Take from medicine to-day what the microscope had taught, and there would little remain. The aim of science was to find the truth. On this truth philosophers might reason and inventors might experiment and base valuable discoveries. But the object of science was to find out this truth. This must be by careful and laborious research and investigation. It was easier to follow old truths or statements based on scientific investigations in the past, than to investigate and learn the truth. The microscope was an instrument which might be a source of amusement and pleasure, also, for there were innumerable experiments that would interest old and young. It well deserved to come into more general use, but to use it for investigation and to find truth, there must be hard study and diligent practice. The eye and the hand must both be trained in their work. There must be a knowledge of optics, lenses, prisms, planes, etc , and the seeing was not alone important. It was more important to interpret what the glass disclosed. Its resources were boundless almost, and it could be used in almost every branch of business. In the matter of disease alone it was wide-reaching in its teaching. With the cholera in Egypt, the yellow fever in the South, and diphtheria and many other diseases in our very midst, it was important that these investigations be carried on in the interest of truth, health, and life. A number of suggestions were made to those studying with the microscope. First, there should be a repetition of observations. That which really existed must still be seen, and what had been seen by man could be seen by man again. Unsupported discoveries were not to be depended upon. The observer might see but a vagary of his own imagination in regard to some theory. Second, the hand should work with the eye, and the discoveries should be recorded in drawings. These would answer the double purpose of preserving the discovery, and of comparing with others. Third, photography should be called in to aid in the work. While it had its faults and defects, yet it was a corrector of impressions. The eye might see but a picture of the brain in working out some theory, but photography recorded the impression made by the light. There were other suggestions, but these were the most important. He spoke of the use of the electric light in special work.

Dr. T. J. Burrill read the next paper on "Preparing and Mounting Bacteria." He said: "In my work I have not attempted to compare the results of the various new staining materials, many of which I have not seen, but what follows is some account of ordinary laboratory manipulation with common aniline colors, such as can be obtained at any drug store for the coloring agents. Want of sufficient chemical knowledge has made it impossible for me to prosecute any systematic experimentation for the accomplishment of new results, and the pressure of other duties has been too great for the record of such achievements as should be presented in a paper of this kind. I can, therefore, only beg the indulgence of my fellow-workers, whose practice has been more considerable and whose attainments are much more commanding than my own. A full account of my attempts to properly stain bacteria would be the record of more failures than successes, judged from my own estimate of what the latter should be, and this, not only at the outset of experimentation on several species, but more or less throughout the work. It is true there are species that may be very readily stained with scarcely a failure, by the use of common aniline violet ink and other dies, and this, too, without, after washing, leaving the material in which the organisms are imbedded too deeply colored; but what seems altogether satisfactory for temporary examination in these cases does by no means answer for all purposes nor with all organisms. The stain is not effective, or not suitable, or not permanent, or defective in one or more of several other particulars.

Some elements of successful staining are: 1. The organisms should be decidedly and conspicuously colored. 2. The general mass of imbedding material should be left unstained, or so different in color that the organisms can be distinctly seen. 3. There should be no granular or other precipitations from the staining material, nor should any portion of the latter remain as a coating on the glass. 4. The color should be suitable for the purposes required, and permanent, if the object is to be mounted for the cabinet. 5. The process should be as simple as possible and free from manipulative difficulties. No one staining material nor any single method of procedure can be made to answer well these requirements for all kinds of bacteria, and in spite of successful practice upon many kinds the operator must ever be prepared for failure in some one or more of the specified particulars. Still, the failures after a little experience may be accounted the exceptions and success the rule. Except for a few special results, aniline dyes are by far the most serviceable in staining bacteria; but these dyes are very different in their effects, and require different treatments. Probably an aqueous solution of methyl violet, so commonly used as ink, has been more generally used for the detection and examination of bacteria than any other agent, though in the hands of some of the most skilful workers gentian violet and methylene blue have each been pronounced most highly serviceable for general purposes. Ordinary violet is, when effective, usually quick and intense, and there is from the aqueous solution no sedimentary deposits consequent upon evaporation or subsequent washing with water, and most often the color of the mass can be suitably reduced by causing a stream of water to play from a wash bottle upon the material. There are, however, two objections to this stain, aside from the instances in which it entirely fails to color the objects. It is not suited for photog. raphy, and it is apt to be very fleeting, especially if exposed to the light. For the first there is no remedy, but for the second something can be done.

The stronger the dye, or the longer its application, especially the former, the more permanent the color, and sufficient washing may be practised to secure the required tint of the field. After, however, the use of the dye of any strength, the application of alcohol is sure to discharge the color from everything; hence mounting in balsam is considered impossible. Treated with acetate of potash, the color is more stable and holds good for some months, but gradually fades in most cases. I have recently used instead of the aqueous solution of this violet aniline a solution in glycerine, with, so far, very satisfactory results. This may not be new to others—probably is not—but was to myself when first tried, about two months ago. After my experience with the aqueous solution, I was surprised to witness the permanence of the stain under treatment with alcohol and of exposure to full sunshine for several days. The preparations are still in good condition, though nothing further can now be stated as to the length of time they will so remain. The aniline is soluble in glycerine to any extent, as is the case with most of the other aniline colors tried, and was used of a strength of about one to five in bulk. To this may be added a small quantity of pure carbolic acid without detriment, so far as observed, and with advantage in the way of effectiveness in some cases. There is no difficulty whatever in passing the stained material through alcohol and benzole, or oil of cloves, into balsam; but in the case of bacteria dried on the cover-glass these preliminary immersions are unecessary. The mounting is direct in pure balsam, care being taken that the prepared material is thoroughly dry. The color stands under subjection to the heat necessary for hardening the balsam. In the case of sections containing organisms, clearing agents are required, and may be freely used with at least certain species of bacteria—e. g., those commonly found on the mucous surfaces of the human body. I have not noticed this difference in permanence of color in the case of other anilines in glycerine; neither do I esteem the solutions in the latter always better than those in water or in alcohol, but in all cases in which the glycerine solutions are as effective they are to be preferred to others on account of the ease of handling. The alcoholic dyes are much inclined to creep or run over or up the surfaces of the containing dishes, and he is an expert workman who can leave his practice with clean fingers, to say nothing of forceps, needles, and perhaps of the work-table. Besides this, the alcohol on exposure rapidly evaporates, and often precipitations and sedimentary deposits mar the results. I do not know how others avoid this escape of alcohol, when either on account of the necessities of the stain or of other business it must be left many hours. I have nothing better than a nest of ordinary porcelian dishes, the edges of which when necessary are smeared with glycerine. Stoppered bottles are not convenient. For the aqueous solutions these dishes are all that can be desired, unless intense heat is to be applied, when watch glasses take their place; but with the watery colors and much more so with the glycerine solutions, nothing is needed for a staining vessel. The dye is simply places in a little pool on the prepared cover-glass, and the latter is held in pliers or placed on a level surface, where in the case of the glycerine it may be left any length of time by protecting from the dust. When ready it may be taken again in the pliers, washed by a stream from a wash bottle with either water or alcohol, or both, without during the process losing account of the surface of the glass on which the material exists. If a second glycerine color is to be applied, this can be done at once in the same way without stopping for drying or for other preliminaries.

Suppose one wants to examine the organisms in his own or any other person's mouth. He may proceed as follows: Secure a little mucus from the tongue or teeth, taking care to avoid the remnants of the last bread and butter enjoyed. Place the substance on a clean glass slip, and if necessary mix by stirring. Make a little spatula of wood a quarter of an inch wide and cut square at the end, with which smear a well-cleaned cover-glass, after the manner of spreading blood by drawing the spatula with the material once or twice, side by side, over the desired surface, holding the instrument at 30 or 40 degrees from the horizontal. Dry in the air or with moderate heat; then pass the glass through a flame somewhat quickly three or four times, holding the smeared surface up, and from a bottle, through the cork of which passes a glass rod, put on a drop of the glycerine violet; after one minute or less wash with water by means of a stream from a wash-bottle, and mount while wet for examination, the upper surface being wiped dry. If for permanent preservation, see that the cover-glass and stained material is thoroughly dry; then mount directly in pure balsam, or, better in some respects and not so good in others, in Farrant's solution of gum and glycerine. All this can be done without putting the object out of hand, and in very short time, and our specimen remains fit for the cabinet or for re-examinations months and probably years afterward. The use of an alcholic solution of blue or red aniline would, with the same or similar treatment, be a complete failure, the whole surface-glass and all, remaining smeared with the dye in spite of water washing, and the whole color disappearing with the use of alcohol. With other organisms, as, for instance, the micrococcus of pear blight, the aqueous solutions or red or violet aniline are partially successful, while methyline blue entirely fails, but the strong glycerine solutions of the two former give far better results.

A method of "fixing" aniline colors, devised, I believe, by H. A. Reevis, of England, has been tried by myself with successful results, though sufficient time has not elapsed to prove the durability of the stain. Alcohol does not remove it. The stained material, whether section of tissue or dried film on the cover-glass, is first treated with a saturated aqueous solution of tannin and distilled water in equal parts, to which is added a little carbolic acid, for three to five minutes; then, after washing in water, submit to a strong aqueous solution of potassio-tartrate of antimony (tarter emetic) for an equal time, and after thorough washing in water transfer to alcohol, a clearing oil, and balsam. I have tried a number of processes for staining bacillus tuberculosis, the now well-known organism of pulmonary consumption, but have succeeded only with the use of aniline oil and fuchsin in alcohol and water, as recommended by Ehrlich and others. In one instance only a good stain apparently resulted from this red aniline with aniline oil in glycerine; but I could not repeat the accomplishment, possibly, however, from the want of fresh material, though with that tried the Ehrlich process succeeded. Dr. Gradle, of Chicago, succeeds with a saturated alcoholic solution of fuchsin in five to eight times the quantity of a 5 per cent aqueous solution of carbolic acid. I had tried the same mixture without success, but my proportion of carbolic acid was considerably greater. Gibbes, of England, makes a distinction between fuchsin and magenta, but no such difference is recognized by dealers in our country. A request for red aniline or either of the above is responded to by offering the same thing. Babes, of France, recommends a saturated aqueous solution, prepared with heat, of aniline violet 1 B, and an exposure of twenty-four hours, or the same with gentian violet. He further also modifies Ehrlich's method by making a saturated aqueous solution of aniline oil, using heat. To this is added 5 per cent of absolute alcohol and 5 per cent of a saturated alcoholic solution of fuchsin or of a very concentrated solution of methyl violet 1 B. Twenty-four hours are again allowed for the stain, decolorizing with nitric acid and water one part to four. I have prepared the dye used by myself as follows: Into twenty grammes of 85 per cent alcohol stir three grammes of aniline oil, and add this slowly while stirring to two grammes of pulverized crystals of fuchsin, the red aniline of the shops. To this solution add, while constantly stirring, twenty grammes of distilled water, and bottle without filtering. This stain keeps well for some months, but gradually becomes unfit for use by the precipitation of granules of coloring matter. Doubtless this could be prevented by a little experimentation, thus making it possible to keep the dye in stock. In practice I have smeared a cover-glass with a little sputum, dried and heated it as before described, and having poured a little of the dye into one of a nest of porcelain dishes, have therein immersed the cover-glass, perhaps several of them, put a little glycerine around the edge of the dish, and covered with another dish. This is left from two to twenty-four or even more hours, when the cover-glasses are taken out and freed from the adhering dye by washing in alcohol, usually by a stream from a wash-bottle, then immersed in nitric acid and water, one part to four, until all color perceptible to eye disappears, in usually about one minute. Wash thoroughly in water, and mount in water for examination. The special organisms should appear as minute ruby-colored rods in a white field. If desired, the latter is stained blue or green by these anilines in glycerine by one minute's application. If for a permanent preservation, after drying, mount by placing a minute drop of pure balsam on the centre of a slide, and invert the cover-glass upon it. Harden with moderate heat. These organisms can be seen by sharp eyes without straining, and by becoming familiar with their appearance, one can pretty certainly pronounce upon their presence without any preparation, provided they are numerous in the specimen examined; but as they alone hold the stain by the above process, it is not only easier to detect them when colored, but to more certainly know them from other kinds of bacteria very commonly found in sputa of the healthy, as well as the diseased.

Dr. Dettmer, of Champaign, made some general remarks on pathogenetic bacteria. His opinion was that very little is known of the mysterious fungus. All the classifications are very imperfect. The bacteria certainly cause the diseases of Texas cattle. They confine themselves to the grass and water, and when taken in by the cattle prosper in the saliva. The presence of micrococci in the blood is not dangerous under some conditions, unless they are of the pathogenic species. Their principal seat is in the liver, then in the spleen. They are often a cause of certain fevers. Not long since an analysis of water in a territory containing much typhoid fever was found to be pregnant with bacteria. Under certain conditions all bacteria become pathogenic, but those conditions are not fully understood.

Dr. George E. Fell, of Buffalo, read a paper on "The Clinical Advantages of Ozone and Its Effects on the Micro-Organisms of Infusoria."

The conclusions arrived at by Dr. Fox in his work on ozone, he summarized as follows: "1. A deficiency of ozone in the air in all probability predisposes to disease, particularly in the epidemic form, by virtue of the depressing and debilitating effect of such air in consequence of its feeble power of oxidizing animal débris. 2. A permanent diminution in the normal amount of active oxygen favors the development of chronic diseases characterized by malnutrition, imperfect oxidation, and degeneration of tissues."

These are the statements of a gentleman who has produced the most complete work on the subject of ozone to the present time. The "in all probability" clause indicates the uncertainty existing as to the value and exact operation of ozone in its relation to health and disease. The theory now so prevalent regarding the etiology of the so-called zymotic diseases did not exist when Dr. Fox wrote these words with the force it does to-day. It is only within a few years that the intimate relations existing between the minute forms of animal and vegetable life and many of the most serious diseases have been known. It is true that many physicians of former periods have held such views, but it has been left to the microscopists of our immediate time to demonstrate this intimacy. If we hold this opinion, that the ills in question are produced through the agency of the micro-organisms which gain access to the system when it is in a condition suitable for their propagation, we will be ready to appreciate the value of the agent which can be practically applied in the arrest of their development. Many of our ablest physicians have accepted the germ theory of disease as among the discoveries of the past, and with this belief investigations have been made with every apparently suitable agent with this end in view. As to the value of ozone as a germicide, very little can be said. So far as I am acquainted, it appears that a sufficiently concentrated ozonized atmosphere retards the movements of the bacteria, and this may indicate its effect on germs or spores. Among those who have given considerable attention to the use of ozone in the clinical treatment of disease, and whose investigations have extended over a sufficient period of time to make them valuable, may be mentioned Dr. F. W. Bartlett, of Buffalo, N. Y., who, in October, 1876, read a paper before the medical and surgical association of that city entitled the "Practical Utilization of Ozone in the Treatment of Disease." In that paper he presented the reports of forty cases treated in air modified by ozone, and claimed remarkably successful results in cases of peculiar severity. In March of this year, he read another paper with the same title, and stated that nearly seven years had elapsed, and he had in that time used the ozone in some two thousand cases in diseases of an essentially zymotic character These diseases embraced scarlet fever, diphtheria, whooping cough, typhoid and malarial fever, phthisis, hay fever, measles, dysentery, influenza, pneumonia, etc. In most of the cases satisfactory results were noticed. In these cases the ozone was generated from phosphorus placed in a moist atmosphere, the apparatus used being conveniently adapted to this method of generating ozone. In these cases the atmosphere had not been surcharged, if this were possible by this method of generation, so as to make respiration difficult. For the purpose of making you acquainted with the method Dr. Bartlett pursued, I will cite one or two typical cases: "A child of Mr. G M. Butler, in 1876, born with a bright scarlatinal rash. I immediately placed it in a strongly ozonized atmosphere, with no expectation of a favorable result, as such cases invariably die. The child, however, kept up a diaphragmatic jerk for thirty-six hours, when regular respiration was established, and it recovered with the usual desquamation and no sequelæ. An older child had been under treatment for two weeks in ordinary atmosphere, and had a tedious convalescence with cervical swellings and otitis. No medicine was given in the case first cited." An illustration of the apparent value of ozone in limiting the spread of disease is given in the following case: "Mrs. B. had a child aged seven years, taken ill August, 1878, with scarlatina maligna. Six other children were similarly exposed. The residence was an ordinary small, one-story cottage, containing five rooms, two being bedrooms. In one of these the child was placed with special ozone generator, and a generator was also placed in the dining-room adjoining the bedrooms. The children were confined to the front room except at meal-time, when, the door of the sick-room being closed, they took their meals in the dining-room. With these precautions, all escaped the disease, and the patient made a good recovery. Mr. H. had a child taken with scarlet fever in the summer of 1879; directed isolation in upper front room of two-story house, mother to nurse, and no one else to be admitted to the room; ozone used; child recovered. No other cases. Two years later, disease appeared in same family—medical attendant not known to me —and three patients, about two, eleven, and eighteen years of age, died." Dr. Bartlett stated that he could go on for hours with reports of cases successfully treated with ozonized air.

It is not my purpose to uphold or condemn his views. I have not had opportunity to make similar experiments, if such they may be called, and I know of no one who has made such an extended clinical application of ozone. We cannot listen to statements similar to the foregoing from any respectable physician without at least being interested in the work he is engaged in. The general effects of the ozone treatment were summed up as follows: In diphtheria liquefaction takes place promptly, the fetor is almost entirely suppressed, and in mild cases the exudate usually disappears by the third day. As a rule, there is no secondary return. In scarlet fever the object is to change the atmosphere as fully as possible, thereby affording an outlet to the poison through the cutaneous surface. In whooping cough the results are stated to be in many cases truly surprising and beneficial. In hay fever the results are favorable. In dysentery results favorable. In croup no certain advantage. In puerperal fever no marked advantage. Patients with phthisis pulmonalis appeared to be benefited by the ozone treatment. The cases were, however, all advanced cases. In senile gangrene, useful as a disinfectant. In resisting the return of disease, it is very valuable in cases of typhoid fever and diphtheria, and in scarlatina and scarlet fever it appears to modify the severity of the disease. He states that he has seen a case of malignant scarlet fever fatal in thirty-six hours, the child rolling in convulsions in its liquid excrement, succeeded in forty-eight hours by a second case of the same nature, but perfectly amenable to treatment, though the disease was prolonged for weeks, and a third case in same family so slightly ill as to call for no treatment, and the fourth and youngest escaped altogether.

Observations were begun March 23d, 1883, and continued as opportunity permitted to the present time, unaware whether similar observations have been made heretofore. As to the results, I have nothing to say further than that in some instances the ozonized atmosphere appeared to have a marked effect on the life in the infusions, and in others no variation from the ordinary conditions were noticeable. The examinations were made with a 1-16 of an inch so-called objective of Gundlach and with a one-inch eye-piece —a power of about 1500 diameters. The first experiment consisted in subjecting a sample of urine found to be teeming with life to the ozonized atmosphere. No change appeared to ensue in the growth, movements, or appearance of the life in such infusion as compared with a portion of the same exposed to the ordinary atmosphere. April 5th, 1883, infusions of cod and scallops were prepared, filtered, placed in test-tubes, and boiled actively for some time for the purpose of destroying the spores which might be existing in them. Cohn concluded "that while hay infusions are generally sterilized by a temperature of 140 degrees Fahr. or more, prolonged during twenty-four hours, certain spores of bacillus seem able to endure a temperature of 158 to 170 degrees Fahr. during three or four days without losing their power of germinating." From this it would appear that subjection to a temperature of 212 degrees Fahr. for ten or fifteen minutes would sterilize such infusions. Tyndall in his celebrated experiments sterilized them by boiling a longer or shorter period. One test tube partially filled with the infusion was placed in an ozonized atmosphere and another of the same infusion exposed to the ordinary atmosphere in rooms of about the same temperature, and in other respects under nearly similar conditions. In some instances one of the small ozone machines was in use, at other times two. The question as to whether more marked results would have followed from the use of a more concentrated ozonized atmosphere remains open for consideration. Whether small chambers of entirely ozonized atmosphere, separate from the surrounding atmosphere for a time, would give different results, I have not yet had an opportunity of determining.

May 28th, 10 P. M., the following experiments were made: Remnants of cod, halibut, and trout infusions, which were allowed to stand several days exposed in open dishes to the atmosphere, gave off a remarkably unpleasant odor. They were mixed thoroughly, placed in an open dish, and subjected at ten o'clock in the evening to the atmosphere of an aquarium, minus the water, which was ozonized by two of the small machines. In addition to this, pieces of the same fish, which had become putrid from standing in the cellar, were likewise placed in the aquarium. This valuable collection, as may be surmised, gave to the room an odor which can be justly likened to that of rotten fish, and was most unbearable. Being called up at 4 A. M. it was ascertained that the odor had been overcome, and was not perceptible in the room. A good whiff at the aquarium revealed it. At 8 A. M. similar results were noted. April 23d, 10:30 P. M.—Prepared a thin solution of starch water. Allowed to stand until sediment gathered at the bottom of the vessels. The supernatent fluid was poured off several times and boiled in a test-tube for a few minutes until the starch was thoroughly dissolved and the liquid quite clear. A small quantity of prepared yeast was then added. A portion of this liquid was subjected to ozonized atmosphere, and another portion to the ordinary atmosphere. Examination at different times failed to reveal any retardation or modification of the growth of the yeast plant which, after a time, plentifully filled both vessels. April 12th, 1883, 11:45 P. M.—At this time an infusion of codfish, prepared April 5th, was covered by a thick scum, and teeming with life. Filter paper was saturated with the infusion and cut into three pieces. One piece was placed in the dome of the ozone apparatus, another on the outside of the same, the third was hung up in the ordinary atmosphere. April 13th, 9:30 P. M.—These pieces were examined by aid of a drop or two of water upon the slide and with the following results: The first, from the dome of the apparatus, was well supplied with motile bacteria. The second, from the exterior of the ozone generator, had very few active bacterial forms; while the third piece, dried for some twenty-four hours in the atmosphere of a room some distance from the former, was found much more plentifully supplied with life. In addition to these experments, infusions of mutton, veal and beef were examined, as in the case of the first infusions, with very similar results. There are many experiments which might be carried out in connection with such inquiries, which might possibly give more positive results. I have not had time to engage in them, and present these with regrets that they could not have been more thorough.

These three papers were discussed together. Discussion was opened by Dr. H. J. Ditmer. He said that native cattle on the plains of Texas are not so easily affected by the bacteria as those imported from other districts. The age of the cattle makes no difference. Northern cattle, strange to say, can be protected from the disease by the food and water being clean and pure. If the grass is raised especially for them and the water that they drink is taken from a place that has not been contaminated, they are apt not to be affected. But if the cattle are allowed to run loose, eating food that has been worked over, or drinking from pools that contain stagnant water, they will certainly become victims. Another observation is that the condition of the stomach of an animal has much to do with the fatality. Cattlemen know this and endeavor to keep their bowels open. It has often been said that Colorado is not affected by the disease. This is not true. It exists there. Antiseptics have been tried with gratifying success.

Dr. Mercer, of Chicago, inquired of Dr. Fell whether the percentage of ozone was estimated for any given result. Dr. Fell replied that there was no estimate. He had placed the ozone apparatus in an aquarium covered with glass. Beside the apparatus he placed the infusions, which were ordinarily prepared, and after they had been there for some time he changed the ingredients. After they had been changed for some time he began observations to see if there was any growth. There is much to be learned, and it is a matter of great importance to ascertain what ozone will produce under the conditions named in his address.

Dr. Hamlin, of Auburn, N. Y., said that no principle of practice can be based upon observations that are not complete. Faith in the use of special treatments has been greatly shaken by recent practice. The doctor cited his own experience with carbolic acid. He became a slave to its use and had great confidence in it. He used it with successful results in diphtheria and scarlet fever, but was suddenly brought up with defeat in a family afflicted with fever, in which the remedy proved of no avail.

Dr. Gradle, of Chicago, inquired whether Dr. Ditmer held that the different species of micrococci were possible of conversion into one another. Dr. Ditmer replied that he did not hold to that theory. He believed that bacteria were plethogeme under some conditions and not under others. Dr. Gradle said the observations have as yet not been sufficient to prove that the species can be changed. The different conditions of the same species can be developed into other higher grades of the same kind. They can even be modified in their form, but the physiological species remain the same. There can be no change, however, in the kinds one into another.

President McCalla inquired if Dr. Fell had observed the effect of light in any form on the bacteria. Dr. Fell replied that he had been unable to make any such observations.

Dr. Burnett said that there is a good deal of folly in attempting to kill bacteria in the atmosphere. Bacteria are hard to kill. If you treat them with drugs and then place them under the microscope in a nourishing fluid they will, as a rule, be found to be living. The remedies that are used ordinarily to kill the bacteria in a room are of no account, and those which are applied to the patient will kill the patient first and the bacteria afterward. Heat and cold are very effective on the bacteria, but the degree of temperature that is successful is, as a rule, fatal to the patient.

Dr. Hudson said that the use of antiseptics was of interest to him. He had used them, but with not much effect.

Dr. Blackham cited his experience with disinfectants, and related the opinion expressed to him by a provincialized doctor, who said that the only use of a disinfectant was to create such an odor in the room as would lead to proper ventilation.

Dr. Frank inquired if there had been any observations of the temperature in the experiments on ozone. Dr. Gradle called the attention of the society to the observations of Koch, which he thought were worthy of imitation in the use of the jellicum medium instead of the fluid, in the propagation of bacteria, by which the different species can be separated and their growth observed. President McCalla indorsed the remarks of Dr. Gradle.

Dr. Blackham, on behalf of the committee on eye-glasses, presented the following report: To the American Society of Microscopists: Your committee on nomenclature and sizes of oculars would unanimously report:

1. In favor of naming oculars, like objectives, by their equivalent focal lengths in English inches. We believe this method to be the best adapted to practical use, sufficiently precise for its object, and capable of general introduction with less inconvenience, opposition, or delay, than any other rational system. Assuming that one inch indicates an amplification of ten diameters, five inches of two diameters, one-fifth inch of fifty diameters, etc., as actually obtained by a compound microscope of a ten-inch tube (from the diaphragm of the ocular to the front lens of the objective), the image being measured by the camera lucida at a distance of ten inches from the camera, and that the amplifying power in use can be approximately determined by multiplying together the powers thus implied in the names of the objective and ocular, an extremely simple and comprehensive system is obtained, whose practical benefits are believed to greatly exceed its technical or theoretical faults, and whose adoption would add much to the definiteness and intelligence of the microscopical work. A table showing the simplicity and scope of this system is given in the journal of the Royal Microscopical Society for 1882, page 105.

2. In favor of adopting one or more standard sizes for the tubes of oculars. That uniformity in this respect would be a great convenience to students, and, to say the least, no disadvantage to manufacturers, we do not doubt; but the difficulties in the way of adopting such a policy at the present time are evidently great, far beyond comparison with those encountered in the introduction of the "society screw." Furthermore, the great variety of tastes among both makers and buyers as to sizes, styles, and pieces of stands seems to call for not less than two or three standard diameters of tube. As an important step toward uniformity we would gladly recommend the adoption of the sizes recently proposed by the Royal Microscopical Society, 0.92 and 1.35 inches, were they adapted to the conditions existing in this country. But 0.92 is a smaller size than we are willing to recommend for any purpose, being much too little, in our judgment, for even the small, compact stands of the "continental" model. On the other hand, we would have preferred 1.40 for the large tube, but do not regard the difference as sufficiently important to justify the naming of still another size. There remains, however, a very large variety of medium-sized stands, a class believed to be rapidly increasing in numbers and importance, which cannot, without a total change of character, be raised to 1.35, and which should not, in our opinion, be reduced even to 1. We therefore propose a standard medium size, 1.25, which we believe well adapted to a great majority of purposes, with the alternatives of 1 and 1.35 for those who wish smaller or larger tubes. Suitable adapters would harmonize apparatus previously made with these sizes, and these sizes with each other. We would also suggest the great convenience of uniform diameter in the upper tube of the ocular for the easy interchange of camera lucidas, analyzers, etc. There seems to be no serious disadvantage in having this tube of uniform diameter in stands of various styles and sizes; and we would recommend that 0.75 inch, or some similar size, be made a standard. We would also recommend that the diameter 1.50, recommended by the Royal Microscopical Society for substage tubes, is in very general use and well adapted to both

large and reasonably small stands, and we recommend its adoption to this society.

3. The following resolutions are therefore submitted to the consideration of the society:

Resolved, That this society recommends that oculars be named by their equivalent focal distances on the basis of one inch focus corresponding to ten diameters of amplification at ten inches distance, and that this nomenclature be employed in the proceedings of this society.

Resolved, That this society recommends the adoption of the diameter 1.25 inch outside measure as a standard size of ocular tubes, with a preference for 1.35 where smaller or larger sizes are required, and recommend 0.75 outside measure for ocular cap tubes and 1.50 inch measure for substage tubes.

R. H. Ward,
A. L. Smith,
J. D. Hyatt,
George E. Blackham.

Dr. Ditmer moved that the report be adopted. Dr. W. H. Bullock, of Chicago, objected to the report on the ground that the committee appeared to have followed the English system, which was 1.35 for the largest piece. The system is not well for America, he said, because there are no instruments here that are made according to the English system. No changes in the parts of an instrument can be made. The amplifying power of the eyepiece ought to be the basis of the standard and not the focal size. There is no make of instruments that correspond to the standard the committee recommends. He spoke of variations that the density of the glass will cause between magnifying powers of pieces that are made according to the same formula.

Dr. Blackham objected to the policy that Dr. Gradle would adopt, because a contrary system had been for a long time in use, and all instruments in use have been constructed according to the one formula. It would require a revolution to bring about the proposed change. Much of the dissatisfaction that is charged to the system is due to the dishonesty of the makers.

Prof. W. A. Rogers, of Harvard College, said it was not fair to charge dishonesty. Their system of measurement and tests is honestly defective, and it would be almost impossible to get a system that will be free from objections. Some plans have been used by makers, but they have been too expensive to the makers for their general use to be required.

Prof. Rogers, of Harvard, read a paper on the "Action of the Diamond in Ruling Lines on Glass."

Prof. A. H. Chester, of Hamilton College, Clinton, N. Y., read a paper on dry mounting, in which he defined his new method. He said: "The great difficulty in successfully mounting objects dry has been the deposit on the under side of the cover-glass, which is apt to appear sooner or later, and which often so obscures the view of the specimen as to render it comparatively useless. At the Montreal meeting of the American Association for the Advancement of Science, last year, Prof. W. A. Rogers suggested a plan for overcoming this difficulty by means of a cover-glass held in place by a wire ring, using a perforated brass plate instead of the usual glass slip. While this may answer for his expensive rulings, it clearly will not be convenient for ordinary mountings; but from his suggestions I have worked out the following method: The object is fastened to the glass slip in the usual way and a cell built up around it by means of one or more tin rings. When the cell is high enough so that the cover-glass laid on top will not touch the object, a tin ring having a little larger hole is cemented on, thus forming a ledge on which the cover-glass may rest, with room above it for the wire ring, which holds it in so firmly that there is no danger of its being jarred out. The tin cells are made as described at the Elmira meeting last year, by punching rings from thick tinfoil and afterward stringing the rough rings on a mandril that just fits the hole, clamping them fast and turning them down until they are just the right size outside. After considerable experiment I have adopted the following sizes in the various parts of this work, using a five-eighths inch cover-glass: For the cell rings a No. 29 punch is used, having a diameter of 0.543 of an inch. For the top rings the punch is No. 22, with a diameter of 0.505 of an inch. This cuts a little larger than its inner diameter, and will just admit the five-eighths cover-glass. For the outer rim of both a No. 11 punch may be used, 0.751 of an inch in diameter, and making the rings large enough to allow for turning down. The tinfoil for the upper ring should have a thickness of about 0.032 of an inch, No. 21 of the Birmingham wire gauge. Made with a gun-wad punch, the rings will have a bevel on the inside, and being set with the smaller hole uppermost the bevel will help to hold the brass ring in place. The wire rings are made from No. 24 spring brass wire, 0.022 of an inch in diameter. These rings are easily made by winding a wire on a spindle about 0.4 of an inch in diameter, forming a spiral spring, every coil of which when cut open makes a ring. The exact size of this spindle is not important, for the size of the spiral can be varied by putting more or less strain on the wire, or by the rate at which the spindle is revolved. The rings should be a trifle larger than the opening in cells, so that small pieces must be cut out to make them fit exactly when sprung into place. They can then be taken out and the cover-glass removed with the greatest ease. The cover-glasses should not be more than one-hundredth of an inch thick, and several thicknesses of tinfoil may conveniently be used for the lower cells. The thinnest I use is 0.005 of an inch. For objects requiring less than that I simply turn a cement ring on the glass, and then put the top cell on that.

"The advantages claimed for this method of mounting are many, some of which I will mention. In the first place, no deposit will collect on the under side of the cover-glass, or, if it does, the glass can be cleaned or replaced by another. Next, there will be no running in of cement, for there will be no partial vacuum, as is often the case when cells are hermetically sealed. If the object becomes dislodged, as often happens when comparatively heavy pieces are mounted dry, they can easily be fastened in place again. I also find this a quicker method of mounting, it not being necessary to take so much pains to avoid running in. If the cover-glass is broken by accident, it is, of course, easily replaced, which is another decided advantage. But the greatest gain is in the fact that the object can be examined uncovered. In working with metallic crystals and the binocular I have often experienced great difficulty from the interference caused by the cover, and find it a great advantage to remove it altogether when studying. Such are the advantages of the new method. If it has any disadvantages, I have failed to find them, after a year's trial."

Prof. Walmsley, of Philadelphia, read an interesting paper on "Photo-Micrography."

At the Elmira meeting of this society, in 1882, I had the honor of reading a short paper on the subject of "Photo-Micrography, with Gelatine Dry Plates and Lamp-Light." This paper was illustrated by a rude piece of apparatus, which, however, was of practical working value, and a negative was made at the time, which, unfortunately, came to naught, through the worthlessness of the developer used. I stated at the time that the germ of a useful addition to our microscopical accessions seemed to exist in this arrangement, and expressed the hope that it would be worked out by others with more leisure and ability than was possessed by myself. I am pleased to know that this has been done in various directions, and have had most creditable specimens of work sent me by those who have only taken up the subject within the past year. My own work in this direction, which has been limited by the unceasing demands of an active business upon my time, has been directed to perfecting the manipulation of the apparatus, and the determination of the kinds of dry plates best adapted to the work, together with the average exposures required. A fair degree of success has attended these efforts, though much more remains to be done, and I submit the apparatus now shown as a substantial advance upon that exhibited at Elmira.

A removable conical tube attached to the front of the camera materially increases the length of same without adding to its bulk, as greater length of bellows would do. The fine adjustment is readily controlled from the extreme rear of the bellows, holding the focusing-glass, by a very simple arrangement. A groove is turned in the periphery of the milled head, moving the fine adjustment around, while a strong, fine cord is passed, and the ends carried through a succession of screw-eyes attached to the base-board, to the end thereof, where a couple of small leaden weights serve to keep the cord stretched tightly. The slightest pull upon this cord on either side serves to change the adjustment in the most delicate manner. A fine fishing line is the best cord for this purpose that I have tried, and the arrangement is appliable alike to microscopes, having the fine adjustment at the rear of the limb, or on the nose piece of the compound body. No surface of ordinary ground glass is delicate enough for the accurate focusing of any but the lowest powers. I therefore made use of it only to arrange the illumination evenly and to centre the object properly. These important preliminaries settled, I remove the ground-glass screen and replace it with the plate-holder, from which front and back have been removed and a sheet of glass inserted in the position, afterward to be occupied by the sensitized plate. No image can now be seen with the naked eye, but if a properly constructed focusing-glass be placed against the part of the plate and the eye applied thereto, the object can be distinctly seen, and accurately focused by the cord arrangement before described. A glass by Darlot made for this purpose is recommended, but is somewhat expensive. An ordinary three-legged microscope, with screw adjustment of focus, will answer very well. Either of these instruments should be previously adjusted to focus accurately upon the opposite surface of the glass plate, against which it is placed, and then secured in this position for future use. Actual experiment has shown that the chemical and visual force of the objectives when used for photographing by lamp-light are practically co-equal, and it has not been found necessary to employ those specially corrected for this purpose. The Messrs. Bech have recently made for me a set of objectives corrected by the addition of a double convex posterior lens, which adds but a trifle to their cost, and which is removable when the lenses are employed for ordinary investigations. The performance of these objectives is very fine; a little better certainly than that of the uncorrected ones, but the latter work so well that no one need be deterred from using them for photographic work. For powers above half an inch it may be most certainly said that no special correction is at all necessary. My experiments of the past year have clearly shown that there is no practical limit to the powers that may be used on the score of illumination. A good lamp, with automatic condenser on the microscope, will afford ample light for the employment of a one-twentieth. The highest power I have used was a one-tenth with amplifier, with which I obtained most excellent negatives, while a medical friend in Philadelphia, who has turned his attention to the the subject within a few months, is using a one-sixteenth habitually with entire success. With such gelatine plates as are now obtainable, there is no more difficulty in securing negatives, with the necessary qualities of sharpness and density, when employing such powers, than with a half inch if the proper exposure be given. There is much less difficulty in determining the proper length of exposure than the landscape photographer encounters, since there is no variation of the light to judge about, and the actinic properties of various tissues and staining fluids are quickly learned from a few experiments. Indeed, so uniform are these conditions when certain brands of plates are used, that I have no hesitation in giving the following table of exposures as a reliable guide to the novice in photo-micrography:

One and a half inch objective, 2 to 3 minutes.
Two-third inch objective, 3 to 4 minutes.
Four-tenths inch objective, 7 to 10 minutes.
One-fifth inch objective, 8 to 12 minutes.
One-tenth inch objective, 12 to 15 minutes.
One-sixteenth inch objective, 15 to 20 minutes.

From careful experimentation with nearly all the brands of plates in the market, I have found that the three known respectively as Carbreth's "Special," Eastman's "Rapid," and Beebe give the best results, being very uniform in their behavior, extremely sensitive, and developing with the density so necessary in a negative of this class. Other makes have yielded good results in my hands, but in all desirable qualities either of those specially named leave nothing to be desired.

Either ferrous oxalate or pyro developers may be used with equal success for most classes of subjects, the former giving the best results with diatoms, or any object in which the markings are sharp and decidedly defined, while the latter yields softer prints of most animal and vegetable tissues, in which the differentiation of the various vessels, cells, etc., is less distinctly marked. If the ferrous oxalate be employed, the oxalate solution should be made decidedly acid with citric or oxalic acids, and the developer strong and active—four parts of oxalate to one of iron. A vast number of formulæ for pyro developers have been published, all of which are doubtless useful. Dr. Kellicott read a paper on "The Infusoria Found in the Gills of the Crawfish."

Dr. A. M. Bleile read a paper on "The Effects of the Division of the Vagi on the Muscles of the Heart." Some of the gentlemen present may remember that, at the meeting held last year, I presented a paper having for its object the demonstration of nutritive or trophic nerves for the heart. The procedure adopted was as follows: One or both vagi were divided in the neck and after a certain time the heart was examined. In all cases was found a fatty degeneration of the heart much sooner when after division of both nerves than if one nerve had been practised on and better marked the more the time had elapsed between operation and death. These results were all obtained on the rabbit. The society requested that this investigation be pursued further and a report be made at this meeting. Various causes have since prevented our carrying out the work as thoroughly and systematically as we could have wished. Chief among these was our inability to procure more than a few rabbits. We finally concluded to use pigeons, and even here we had some difficulty in procuring a larger stock of animals and a regular supply. The procedure with pigeons was the same as that followed in the rabbit, one or double-sided vagotomy, and where animals did not die from changes superinduced by the operation, death by decapitation or nicotine. A small part of each heart was examined fresh, and the other portion divided into two parts. One was immersed in alcohol, the other in diluted chromic acid. We found that light staining facilitates examination, and of late have almost exclusively used a very diluted eosine solution, the preparation being immersed in this for one or two minutes just before tearing. The granules themselves are not stained by this agent, but the slight tinging of the basis substance was found to be quite a relief in protracted observation. Tearing the pigeon heart is a much more tedious process than with the rabbit heart, nor can such satisfactory preparations be obtained, owing to the extreme delicacy of the fibres in the former. In preparing specimens of the normal heart for a standard, it was soon found that young pigeons were entirely useless for this work, as in them the muscular fibres are all finely granular, the cross-striæ being only indicated by a row of granules. This we verified with many hearts. Pigeons which have undergone double vagotomy die in from ten to thirteen days. Immediately after the operation they are profoundly affected; recover somewhat after a few days, though never fully, and death comes on suddenly without any noticeable signs. At the autopsy the crop is usually found filled with corn and a whitish, fetid fluid, but the direct cause of death is not apparent. In animals which have undergone a one-sided vagotomy only, everything appears to have passed off in a few hours, the pigeon appearing just as one uninjured, nor is there any microscopic change after death.

He concludes. 1. The fibres of the pigeon are more delicate and more friable than in the rabbit. 2. In young pigeons the cross-striation of the muscular fibres of the heart is indicated by the fine granules which might be mistaken for beginning degeneration. 3. Even in the adult pigeon granular fibres are occasionally found by the side of well-marked striated ones, the former being perceptibly narrower. Possibly the granular fibres are still embryonic and destined to replace the older ones as needed. 4. Recently Pohl. Rincus has pointed out that the frog's heart has two sets of muscles—the outer one termed the mouth, and the other forming by its arrangement into trabeculæ a system of lacunæ in which the blood circulates. In our pigeon-heart preparations blood corpuscles seem to lie in interstices, possibly corresponding to the lacunæ of the frog's heart, and these corpuscles, when altered by reagents, might be mistaken for larger fat granules. 5. After division of one vagus only there follows in the heart muscle of the pigeon a finely fatty degeneration, about equally marked on both sides of the heart, and more plain the longer the animal has been kept alive after the vagotomy. 6. After double vagotomy the degeneration is better marked—*i. e.*, the fat granules are large and appear sooner than after one-sided vagotomy. Hence we conclude that the vagus in the pigeon as in the rabbit carries trophic cardiac fibres, no other explanation accounting for the changes found, and that the influences descending by one nerve are sufficient to somewhat retard the degeneration of both sides which would follow a double division. Recent researches in cardiac physiology have not been accessible to Dr. Bleile.

Prof. T. S. Updegraff, of Elmira, presented an able paper defining some "Hitherto Undescribed Animalcula—Perebella, Annelida, Brachionus," which elicited an animated discussion. Dr. Rogers, of Harvard, and Dr. Lester Curtis, of Chicago, discussed rival centimetres.

Dr. G. E. Blackman, of Dunkirk, read a paper on "The Relations of Aperture to Amplification in the Selection of a Series of Microscopic Objectives." It was listened to with a great deal of interest, and was as follows:

"Perhaps no subject has been more hotly discussed, or from a more purely personal standpoint, than that of the selection of a proper series of powers for the general work of the microscopist. One school insists that a large series of objectives with two or three eye-pieces is best, arguing that, as the image formed by the objective is magnified by the eye-piece, any imperfections will be correspondingly increased, and that, therefore, high power eye-pieces are undesirable and changes in amplification must be obtained by a change of objective. Hence it results that we find complete outfits advertised with three eye-pieces and a long list of objectives, four inch, two inch, one inch, two-thirds inch, one-half inch, one-eighth inch, one-twelfth inch, one-sixteenth inch, and one-twentieth, or one-twenty-fifth inch. Usually the advocates of this plan are advocates of the use of objectives of narrow aperture. The objections to the plan are numerous, and among them may be mentioned the great expense of a full list of powers on this plan, and the inconvenience of changing objectives frequently. Lately the Rev. Mr. Dallinger, F.R.M.S., whose remarkable work in reference to the life histories of some of the minute flagellate monads proves him to be a most skilled microscopist, has given his views upon the subject. He cannot be classed as an opponent of wide apertures, for he says, truly enough, that 'much of my work could not have been done without them,' but he advocates a still more elaborate series of objectives. He says: 'I have in all my special working powers three lenses of the same power, and in some cases four, and each of these in following out the life-history of an organism, say of 1-3000 to 1-6000 of an inch in length, is absolutely needed, and its place cannot be supplied by any other. Thus, I have two 1-50ths, one having very low angle, and the other as great a numerical aperture as an oil immersion can provide when worked by the best makers, one 1-35ths, three 1-25ths, four 1-16ths, and so on.' He also goes on in the same article to show the necessity for certain purposes of dry-working lenses of great amplifying and resolving power, because in using immersion-lenses for prolonged observation of organisms in water or other liquids there is great danger of the immersion fluid getting beyond the edge of the cover-glass, and mingling with the fluid beneath, thus destroying the minute organisms or otherwise invalidating the observations. As the cost for the series of high power objectives here mentioned, if of first quality, would be in this country more than $1000, and the cost of the lower power objectives, stand, eye-pieces, and accessories, if selected on the same elaborate scale, would probably amount to as much more, it does not require much argument to show that, if such an outfit is really necessary, the majority of workers in this country must go without, and content themselves with outfits suited only to the less delicate and elaborate investigations. In these times, when the bacteria are attracting so much attention as the putative causes of many fatal diseases, it seems a pity, if it is true, that their investigation cannot be properly undertaken without an armamentarium, the first cost of which is far beyond the means of the great majority of those who are specially interested in studying them. But is it true? Can we not select a series of powers which shall cover the whole range of microscopical investigation and yet not be beyand the means of the average worker? Let us see if we cannot approach the problem from the optical and mathematical side.

"What is the problem? Simply to provide a microscopical outfit which shall enable us to see clearly all the details which, invisible to the unaided eye, are yet visible by the aid of the microscope. I have shown elsewhere that the normal eye can easily recognize and separate (resolve) at ten inches distance ruled lines two hundred to the inch, and we find that, within certain limits, still finer lines become clearly visible when magnified sufficiently to bring their images seen in the microscope up to this limit of two hundred to the inch. Thus lines ten thousand to one inch when magnified fifty times, say, with a one-inch objective of 30 degrees air aperture and two-inch eye-piece, become apparently the same as lines two hundred to one inch seen with the naked eye. Judging from this alone, we might say the problem is a very simple one if our lenses are well made. All we have to do is to use those which give sufficient amplification to bring the objects up to the apparent size of lines two hundred to one inch at ten inches from the eye. But suppose we go on with our experiment, and take a set of lines ruled forty thousand to one inch. To bring these to the required apparent size requires a power of two hundred diameters, which is easily obtained with the same one-inch objective by substituting a one-half inch for the two-inch. We no longer see separate lines; nor will we succeed any better with a higher objective of the aperture as our one-inch, no matter how much we may increase the amplification. A one-tenth-inch objective with the two-inch eye-piece will give us amplification of five hundred diameters—sufficient to bring the lines to an apparent scale of eighty to one-inch—and yet we shall not be able to see the individual lines if our one-tenth has no more aperture than our inch. On the other hand, a one-inch objective of 50 degrees air aperture will, with the one-fourth-inch eye-piece, give us an amplification of four hundred diameters and render each individual line clearly visible.

"It is clear, then, that the rendering visible of minute details does not depend solely upon amplification, but that another element enters into the problem, and that element is the aperture of the objective."

Dr. W. T. Belfield exhibited a series of micro-photographs, recently presented to the Chicago Board of Trade during the McGeoch-Fowler lard investigation. The photographs represented specimens of lard, pure and adulterated, showing how adulterations of lard can be detected by the microscope. This is rendered possible by the differences between the crystals of lard and of tallow—a discovery made two years ago by Dr. P. B. Rose. The crystals of lard are long, thin plates with bevelled ends, while the crystals of tallow are plume-shaped, resembling somewhat an ostrich feather. In adulterated lard the feathery crystals of tallow can be detected among the thin plates of lard. The two kinds of crystals were plainly shown in several of Dr. Belfield's photographs representing adulterated lard. This was entirely dilettante work, as the subject was only crammed up for the special occasion by Dr. Belfield and his co-"experts."

Dr. D. S. Clevenger, of Chicago, Pathologist of the Cook County Insane Asylum, reviewed the physiology of the brain and nervous system generally and the nature of their diseases, as revealed by the microscope. He held that the pathology of several forms of insanity has been thoroughly worked out; for example, the form known as progressive paresis consists of well-defined diseased conditions which the doctor described as consisting of connective tissue proliferation, sclerosis, and degenerate capillaries. The vulgar name for this disease is softening of the brain. The softening is not a prominent feature; on the other hand, the brain is positively hardened. In delirium grave the intensity of the acute pathological condition actually sets up demonstrable ante-mortem changes. The œdema of the brain is so great as to make microscopic preparation very difficult.

The researches of Fritsch, Hitzig, and Ferrier on localization of function in the brain were shown to place control of bodily parts in the outer part of the brain, and this was the death-blow of the so-called science of phrenology. Exner from two thousand pathological cases modified the deduction of those last named by showing that the brain may have one part act for another vicariously. Lastly, Golgi, an Italian, by nitrate of silver staining has shown finer ramifications of the nerve fibres hitherto unseen, going to prove the brain to be a beautifully constructed machine, acting upon purely automatic principles. The study of brain and nerve tissue, as well as other biological investigations, is destined to reveal a great many phenomena, to result in saving of health and mentality to multitudes unborn. The taunt of the ignorant is that scientists do not have ultimate knowledge ; that they do not know the pathology of every form of insanity or disease in general. This should be no reason why we should not encourage these researches in every way possible, for year after year the grandest discoveries in these matters are being made by toilsome steps, and there is actually no predicting the benefits to accrue. Thousands of investigators are wearied out by the opposition to their labors or their inability to prosecute them for want of help that should flow from every quarter, and they forsake the scalpel and microscope for less noble but more lucrative work. As Morel well expressed it, "The brain is always the seat of the insanity, but not always the seat of its cause." The pathology of insanity is, after all, general pathology, and requires careful study of the conditions existing after death all over the body in connection with the history of the living case. The microscope assists these researches as no other instrument can, and workers in this field need more encouragement than is usually accorded them.

Dr. F. Taylor, of Washington, then read a paper on "Parasites in Fowls." Mr. D. Turner, of Washington, D. C., observing that one of his domestic fowl had been ailing for some weeks, requested me to make a post-mortem examination of it to ascertain if possible the cause of its sickness. The fowl was brought to me in a moribund condition, and died within an hour after its reception. Its comb presented a deep red color, changing to black. I removed the viscera, and found them, with the exception of the lungs, in an apparently healthy condition. I observed, however, on the intercostal muscles, bordering on the ribs, what resembled a reddish-yellow pigment spreading over the surface in streaks, while small specks of various forms covered the lining of the abdominal cavity. These specks varied in size from the point of a pin to that of a small pin head. On removing a small portion of the colored matter and viewing it under the microscope, I found it to consist of mites (acari) in various stages of growth. I next removed a small portion of the lung tissue, and found in it several living mites of the same character. I subjected other portions of the lungs to the same examination, and found in them large numbers of these living mites, some of them so lively that it was difficult to keep them long in view under an 1½ inch objective. Although there is no record of this species being hitherto discovered in this country, it is known in Europe, and is described by Meguin, who states that it causes there the death of wild and domestic fowl. He says it is found in the air passages of the lungs, in the bronchial tubes and their diversions, in the bones with which the air sacks communicate, and in the cavities. It is also found in the bronchi of birds, and when present in large numbers causes titilations of the bronchial mucous membrane, indicated by a slight cough, in some cases giving rise to symptoms of asphyxia and congestion, to which the bird may succumb. He instances the case of a pheasant which died of an unknown disease, and in which, when dissected, this obstruction of the bronchi was plainly seen. I think it probable that these mites, after they have effected a lodgment in the lungs, bore through the pleura and invade the thoracic and abdominal cavities, where they breed in large numbers, producing great irritation and ultimately the death of the fowl.

About two months after the dissection of the fowl above mentioned, a second one was brought to me for examination by the same gentleman who brought the first. The comb of this, like that of the other, was highly engorged with blood and black at the tips. Its crop was greatly distended. It was unable to stand up, had a slight cough, and breathed with difficulty, yet exhibited considerable strength when about to be killed. It had been ailing during the previous four weeks. On removing the skin of this fowl for the purpose of examining the condition of its cellular tissue I observed great numbers of small white specks of calcareous matter, varying in size from the one hundredth to the one-twelfth of an inch. When these opaque bodies were gently crushed in water and examined under the microscope, the remains of a species of mite were discerned. On further investigation I found imbedded in the whole region of the cellular tissue quantities of living mites wholly free from the calcareous matter and of a different species from the first described. One of the most prominint distinguishing features of this mite was the presence of two caudal appendages. This species proved on further examination to be Laminosioptes gallinorum (Meguin), or a species closely related to it. The habitats of these mites seemed to be confined to the cellular tissue. I examined the flesh and viscera of this fowl for these mites, but found neither living mites, their remains, nor yet calcareous specks. Meguin states that in Europe this acarus has been found in all turkey hens, and especially in foreign turkeys of the family Phasania. He says that these acari gather in millions in the cellular tissue and destroy the fibres, but without causing any other change than the production of the calcareous concretions spoken of. He further says that they have been noticed in such numbers in old birds as to leave no doubt as to their being the cause of their death. On examining the crop of this second fowl, which, as I have already said, was greatly distended, I observed without the aid of the microscope numerous specks, of of a more uniform character than those found on the cellular tissue, distributed over the whole surface. I examined a small portion of the crop, not exceeding a quarter of an inch square, under a low power of the microscope, and found these specks to consist of what appeared to be a profusion of encysted trichina spiralis, but on removing one of these nematoid worms from its watery cyst and viewing it under a power of five hundred diameters, I found it to be a new species of spirilum, the male differing from any other hematoid with which I am acquainted in having on the terminal point of its caudal appendage a bulbous body covered with short spines. These encysted worms swarmed over the entire walls of the stomach and intestines, and were apparently incased within the muscular coating.

On examining the tissue of a third fowl, which died from an unknown cause, I found numerous mites in its cellular tissue of the species gallinorous above described, while no other parasites were to be seen within its tissue or viscera. From the results of these examinations it seems probable that a considerable amount of disease prevailing among American domestic fowl, and not referable to any known type, may be due to the presence of such parasites as are described in the cases mentioned above. Investigations, therefore, in this direction may have an important bearing on the healthful raising of domestic fowl. I would suggest as a remedy for diseases so caused the sprinkling of the nests with a few grains of naphthaline, and the ground floor of the hen-houses might be sprinkled occasionally with a mixture of coal-oil and water in the proportion of one tablespoonful of oil to a gallon of water.

Dr. M. L. Holbrook read the following paper on the "Renal Nerve Terminations." The animal body, according to more recent investigations, is composed of living matter, accumulated in the shape of nodular thickenings, the formerly so-called cells, and distributed in a reticular arrangement without interruption throughout all the tissues. It is only the liquid and solid interstitial substances filling the meshes of the living reticulum which are destitute of life, and upon the nature of which depends the character of the tissues. Although all living matter is endowed with the property of contractility and irritability, yet all the tissues of the body are connected by means of delicate threads—the nerves—with the central nervous system, the brain and spinal cord. The object of this connection is obviously the regulation of the functions of all the living tissues. The impressions received from the outer world, the disturbances of a pathological nature, such as pain, are carried centripetally, while the impulse of the motor action transferred upon the motor parts, the muscles, runs centrifugally. The same is obviously the case in the regulative activity of the process of secretion. While we know to-day that, with the exception of the horny tissues proper, hairs, nails, etc., all tissues of the body are endowed with life, we are prepared to understand that they are also connected by means of an extremely delicate network of nerves with nerve centres. We are, I think, also justified in assuming that even the small elements, or groups of such elements, are in connection with the central nervous system. We know, through the researches of William Haslock, that pretty nearly every cornea corpuscle is connected with a nerve fibre. This helps to explain the very great sensitiveness of this membrane of the eye-ball. With the exception of cartilage and bone tissue, known to be rather inert, nerves have been traced into all other varieties of connective tissue. Muscles, we know, are abundantly supplied with both moter and sensitive nerves. The sensitive nature of the latter is mainly defined by conclusion. Epithelia are known to be supplied with nerve fibres, particularly the interior epithelia of the cornea. Since the introduction of the valuable reagent for nerves, the half per cent solution of chloride of gold by Conheim, the nerve fibres have been traced in different epithelial formations, such as the rete mucosum of the skin, the mucosa of the bladder, vagina, etc. Where the ultimate termination of the finest axis fibrillæ ought to be sought for has been a matter of difference of opinion. Some observers maintained that the ultimate fibrillæ enter the epithelia, and even the nuclei, while others have demonstrated a plexiform arrangement of the nerve fibrilla between the epithelia. We know that the activity of the secretory or glandular organs is largely under the control of the nervous system.

The activity of a gland depends upon the activity of its single epithelial elements. If, therefore, a decided influence of nervous activity upon the secretory glands be observed, for the ultimate terminations of the nerve fibrillæ should be sought either in the epithelia themselves or between them. In the liver I have proved the existence of an extremely delicate reticulated plexus of nerves between the epithelia, without having been able to trace them into the interior of these formations ; and, indeed, the latter feature seems to be entirely superfluous for an understanding of the process of transmitting nervous impulse upon the living matter of epithelia, since the nerve fibrillæ course in the cement substance between the epithelia, and are in direct union with the delicate thread-like formations of living matter which traverse the cement substance and interconnect all epithelia.

R. Heidenhain has recently demonstrated that the secretory action of the kidneys is located mainly, if not exclusively, in the epithelia of the convoluted and straight narrow tubules. His experiments with sulphate of indigo and soda proved that the secretion of this coloring matter takes place only in the epithelia of these tubules, while the tuft as such, fully in accordance with the assertions of Bowman, serves merely for the expulsion of water. The epithelia of the uriniferous tubules, as well as the capillary blood-vessels of the tuft, necessarily are under the control of the nerves. My intentions were to demonstrate their ultimate distribution in both of these formations. The method resorted to was by staining the sections with the ½ per cent solution of the chloride of gold, as first suggested by J. Cohnheim. This method has been greatly improved by M. Lowitt. The nerves are formations of living matter, the same as all varieties of tissues. The chloride of gold has the property of staining nerves dark violet more intensely than it does other kinds of living matter, including even muscles, and formic acid removes the gold stain from the latter more readily than from the nerves. This fact would seem to indicate that the nerves are the products of living matter in a more concentrated condition than the other tissues, including even muscles. Besides, the interstitial substances in connective tissue, muscle, and epithelia, may prevent the gold solution from displaying its full power of reaction, while in the nerve fibre proper such interstitial substances are wanting, or present only in small quantities. Epithelia more particularly are not easily brought under the action of chloride of gold. If treated with formic acid, they are attacked sooner than the nerves present between them. Hence the great value of this compound treatment, especially for the bringing out of the nerves. The objects upon which I have made my researches were the kidneys of the pig, sheep, ox, cat, and the human kidney. Among these, those of the pig and the child proved most satisfactory. Of the latter I had at my disposal two kidneys from children, one having died of scarlatina, and the other with diphtheria, and both being involved by a morbid process known as acute catarrhal nephritis. The œdema of the connective tissue frame of these kidneys seems to have in marked degree facilitated the tracing of the nerve fibres, although both were preserved in a ½ per cent solution of chromic acid before being subjected to the influence of the chloride of gold.

The fresh kidneys, as well as those preserved in chromic-acid solutions, were frozen in the freezing microtome of Dr. Taylor, and the sections, cut very thin, were allowed to remain in the gold solution for varying periods of time. Some sections remained in the gold only forty minutes, others several hours, some two days, and a few, one of which proved very good, several days. While in the gold solution, they were, of course, kept in a dark place. When removed they were carefully washed in distilled water and placed in a strong formic acid of a specific gravity of 120 degrees, from five to eight minutes, or in a 25 per cent solution of the same for hours and even days. Sometimes I obtained very good specimens by placing the sections first in a dilute 25 per cent solution of formic acid, for twenty-four hours, and afterward staining them with chloride of gold until they reached the color desired. Sections which had been preserved in the chromic acid required much longer exposure to the gold than fresh specimens, and never took so deep a stain, though the ultimate results were about the same.

I must lay special stress on one fact, that sections from some kidneys invariably assume a dark-red or crimson color after being treated with formic acid, and these, without exception, proved useless for showing nerves. Those which took on a dark purple tint were the best. In some cases where the sections, after a first treatment with the gold and afterward with the formic acid, had proved worthless for nerves, a second staining with gold was tried without the use of formic acid, but only with a washing in distilled water, with very good results. All of the sections were mounted in glycerine, and remained unchanged during the period of investigation, which continued for several months. The nerves supplying the kidneys are mainly of the nonmedullated variety. They accompany the larger arteries of this organ, either in bundles or in flat, expanded layers, and the latter features I found more common than the former.

Sometimes an artery would be found encircled by a network of non-medullated nerves of a bewildering number. Hundreds of such nucleated bundles of fibres could be traced around, above, and below an artery, freely branching, bifurcating, and supplying all the neighboring formations with a large number of delicate fibrillæ. In such a case the single non-medullated nerve fibres lay apart and were separated by an extremely delicate layer of fibrous tissue, the perineurium internum. The corticle substance undoubtedly derives all of its nerves from such bundles accompanying arteries. The pyramidal substance is supplied with bundles of non-medullated nerves, apparently independent of the arteries; at all events, such formations are exceedingly scanty here. The bundles of non-medullated nerve fibres are marked by a large number of nuclei. True ganglions I have seen only in small numbers. The bundles of nerve fibres give off delicate ramules to the afferent vessels by which they enter the tuft, and here they produce a delicate plexus spun around its capillaries. It was impossible to decide where the ultimate fibrillæ branch in the capillaries of the tuft, because in the specimens treated with formic acid it was impossible to distinguish between the flat epithelia covering the convulsions of the capillaries and the endothelia covering their interior. Sometimes I obtained a specimen in which it seemed as if the ultimate fibrillæ branched beneath the covering flat epithelia in the delicate connective tissue between the convolusions of the capillaries, but of this I am not certain. I can corroborate the assertion of L. Bremer that every capillary is supplied with a plexus of non-medullated nerve fibrillæ, but I disagree with his assertions, that the nerves run outside the wall of the vessel and do not penetrate the wall itself. My own observations, I think, leave little doubt that they penetrate the cement substance between the endothelia. Concerning the distribution of the nerves in the middle coat of the arteries, I fully agree with M. Lowitt that they run between the smooth muscle fibres. From the large bundles of non-medullated nerve fibres innumerable delicate beaded fibrillæ arise, and course in the delicate fibrous connective tissue between the uriniferous tubules. In perfect specimens there is no difficulty in satisfying one's self of the fact that every tubule is encircled by a plexus of non-medullated nerve fibres coursing either in the immediate vicinity of the tubule, in the interstitial connective tissue, or within the dense layer, subjacent to the epithelia, known as membrana propria, or even within the layer, along the feet of the epithelia themselves. Obviously those nerves are most favorable for research which course outside of the epithelia, at a small distance from the membrana propria. Here we can, sometimes, see at certain regular intervals, arising at right or acute angles, extremely delicate nerve fibrillæ, which pierce the membrana propria and run into the cement substance between the epithelia. The distance in which these ultimate fibrillæ arise fully correspond to the breadth of a single epithelial element, so much so that in some places the impression of the ladder with regular rounds is obtained. Of course, only one of the frames or side pieces of the ladder is seen. In a front view of the epithelia the nerve-fibrillæ can sometimes be traced in the form of a delicate plexus distributed in the epithelia, and not infrequently conveying the impression that every epithelium is surrounded by a nerve fibrillæ in the cement substance. In an edge view this impression is not obtained, for the interstices between the epithelia, supplied with nerves only exceptionally can be seen, while in the majority of cases two or three epithelia seem to be supplied with only one nerve fibrillæ common to them. The latter image is more particularly pronounced along the straight collecting tubules in which, usually in edge view, two nerve fibrillæ are situated between three or four epithelial elements, and here the cement substance, carrying the nerve fibrillæ, as much broader than the cement substance apparently destitute of nerve fibres. If, however, we recall the fact that in a front view of the tubules the arrangement of the ultimate fibrillæ is plexiform, we obviously should not expect to see in edge view nerve fibrillæ between each single epithelium. The distributions of the nerves in the uriniferous tubules seem to be richer in the convoluted and the ascending and descending limbs of the narrow tubules, while the straight collecting ones seem to be more scantily supplied. Several times I have seen nerve fibres accompanying the loops of the narrow tubules in a direction corresponding to their course. Recent researches of S. Stricker make it evident that the cement substance between the epithelia is by no means an invariable formation, and that temporarily the ledges of the cement substance may be distinctly seen ; at other times, on the contrary, be lacking to such an extent that the epithelia represent one unbroken layer of protoplasm with nuclei at regular intervals. Even when the cement substance is apparent, invariably transverse spokes (the formerly so-called thorns) are seen traversing the layers of cement substance interconnecting the single epithelia. It is these spokes with which the nerve fibrillæ inosculate. Thus we easily understand the way in which nervous impulse is transmitted into the interior of the small secretory workshops, termed epithelia. Dr. Beale claims to have traced the nerves of the kidney to their distribution around the vessels and uriniferous tubules, but makes no mention of their final endings. The low power used by him leads me to think that he may have mistaken connective tissue fibres for nerves. I have searched the records of microscopic research carefully since 1870, and find no special mention of discoveries in the terminations of the nerves in any glandular organ.

Papers on "Infusoria," on the "Pests of Knats in Plants," and on the "Eggs of the Tricocephalus Affinis in the Rabbit," were then read by Drs. Hudson, Kellicott and Eastman. Dr. J. M. Mansfield made a very dilettante address on "Organized Work," after which the following were elected officers of the society for the year 1883–84 : President, Hon. J. D. Cox, F.R.M.S., of Cincinnati ; Vice-Presidents, Prof. T. J. Burrill, of Champaign, Ill., and Prof. W. A. Rogers, F.R.M.S., of Harvard University ; Executive Committee, Prof. A. H. Chester, of Clinton, N. Y.; Dr. H. A. Johnson, of Chicago, and Gen. W. Humphrey, of Jackson, Mich., and the society adjourned.

SANITARY DEPARTMENT.

Newburg's (N.Y.) Poisonous Well—Four Deaths Traced to the Use of its Water.—The contaminated well in this city has so far resulted in four deaths, though the use of its water for drinking purposes was stopped as soon as the cause of the sickness became apparent. In every case the patients have had typhoid fever, and there is no doubt but the well has been the cause of all the sickness, it being so situated as to become poisoned with sewage. The case is attracting attention from the State Board of Health, as well as from local physicians, and a thorough investigation of it is likely. One or two doctors are now at work collecting data.

Building a Crematory.—Work is begun on an improved crematory at the University of Pennsylvania. It will be composed of iron and fire-brick. The crematory chamber will be 6 feet and 6 inches long, 3 feet wide, and 2 feet high. There will be a furnace at each end of the chamber. Bodies to be burned will be introduced into the receptacle at an aperture on the side of the chamber protected by an iron side weighing 400 pounds. The flames will pass over the bodies in opposite directions and retreat underneath the chamber into an escape flue. It will take six hours to consume a body. The fuel used will be soft coal.

Acres upon Acres of Hot Springs (*Yellowstone Park Correspondence Memphis Avalanche*).—There is a tract of country about 35 miles wide and 65 miles long, covered at intervals with hot boiling springs, spouting geysers, stupendous water-falls, snow-clad mountain peaks, and so on and so on. Imagine thousands of these hot, cold, and boiling springs scattered over this immense territory, shooting up their fountains from 1 foot to 250 feet in the air, some of them every minute, some of them hourly, some daily, some weekly, but all of them with regularity ; imagine, furthermore, some of these springs to issue limpid and pure waters, some to issue drab and colored streams, impregnated with many mineral and chemical properties, then imagine still other great basins, 25 to 100 feet in diameter (called paint-pots), to be filled with every shade and color of a thin, mushy mud consistency, boiling and sputtering and seething forever, and presenting the appearance of boiling paint ; go further still and imagine great basins of black and ever-boiling ink (called ink-pots), and you will have but a faint and imperfect idea of these aqueous and gaseous wonders.

Small House Drains *vs.* Large Ones.—Mr. W. H. Vibbard, engineer of the sewerage of Kalamazoo, Mich. (Waring's system), in his annual report, January 8th, 1883, gives the following interesting observation of an instructive case :

" A stoppage occurred in the main outlet drain of the Kalamazoo House (after running fourteen months without one dollar of expense), caused by the settling of the pipe laid over an unused vault. The pipe was taken up and the vault cleaned out and filled with gravel, well rammed, and the pipe was relaid. The line is about 400 feet long, 4 inches in diameter, and took the place of a 10-inch cement pipe, which had given constant trouble for years, and which, when taken up, showed a deposit in the bottom of it of 4 inches of solid matter.

" On taking up the new pipe sewer to be relaid, it was found to be perfectly clean after fourteen months of use. No deposit of any kind was found in it. It was as bright as the day it was laid."

OCEAN GROVE'S BIG WELL, N. J.—The great artesian well at this place has been completed at last. It promises to be a great success. Eighty gallons of water flow from it every minute. The well is 420 feet deep. The water rises to a height of 28 feet above the level of the ground. The work of boring has been accomplished by the constant employment of six men, and the entire cost thus far has been about $3500.

CINCINNATI BOARD OF HEALTH.—Judge Longworth, when on the Court of Common Pleas Bench in this county, in delivering a decision in a case tried before him, said of a member of the Cincinnati Board of Health:

"*This Dr. Beck, who perpetrated this swindle, and who was on the stand, I cannot help saying, seems to be the most infamous scoundrel that it was ever my fortune to hear of*, and it is only just to say that my impression is derived solely from his testimony and his conduct. . . ."

THE PITTSBURG, PA., BLACK HOLES.—The report of the inspection of the prisons of Allegheny County by the Women's Auxiliary Committee of the State Board of Charities has just been forwarded to Harrisburg. It makes startling revelations in regard to the Pittsburg Jail, and characterizes the cells as "chambers of horrors." The jail is condemned as an outrage on the community. In the cells, which were only intended for two persons, as many as nine prisoners have been crowded at one time. They are dark and badly ventilated, the only light in many being from the grated doors. Criminals of the worst type, young boys, hardened women, and young girls just starting on the road to ruin, have been compelled to associate together. A new jail has been recommended.

THE NEW ERA.—Louis M. Hooper, Sanitary Inspector for the Health Department, charged a plumber named Charles D. Lamarche, of No. 254 East Seventy-fourth Street, with having done the plumbing work in a row of six houses at One Hundred and Twenty-second Street and Fourth Avenue, and also in two houses at One Hundred and Eighth Street and Second Avenue, in so defective a manner as to be detrimental to health. The accused pleaded not guilty in the Yorkville Police Court yesterday, but was held in $300 bail on each charge.

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PHARMACY AND THERAPEUTICS.

GLYCERINE NOT A PROPER SUBSTITUTE FOR LARD.—Glycerine is now extensively used in pharmacy, and, being an excellent solvent for many drugs, has often been employed as a vehicle instead of lard or oil. In spite of the negative results many ointments and other mixtures are made with glycerine instead of lard. Vigier calls attention to the fact that glycerine (and he might have added vaseline) does not penetrate the pores of the skin, and hence opposes the absorption of the drug.

Vigier proved this by experiments made on himself. He rubbed the skin repeatedly with a glycerine solution of potassium iodide (10 to 30), but never found any in his urine. When he substituted a fatty substance for the glycerine, he could always detect iodine in his urine.

A solution of one part of morphine hydrochlorate in twenty of glycerine, when rubbed on the skin, did not produce a trace of narcotic effect.

A one per cent solution of atropine was applied to the temple for six hours, but caused no dilatation of the pupil.

The experiment with mercuric chloride was still more striking ; he dissolved five parts of sublimate in one hundred of glycerine, and rubbed it well in, but it did not redden his skin, notwithstanding its corrosive nature, and no trace of mercury was found in the urine : hence he proposes to employ this solution instead of *Unguentum hydragyri* as an insecticide, a considerable quantity of mercury being always absorbed through the skin from this salve.

From this we see that it is indispensable to use a fatty substance as vehicle when the drug is to be absorbed through the skin, while glycerine, or *Unguentum glycerini*, may be employed when absorption is not desired.—*Leitmeritz Rundschau fur Pharmacie*, ix., 224.

A Method Proposed to Secure Children against Attacks of Diphtheria.—In the course of a review published in the *Charleston Medical Journal* many years since, and also in a letter to a medical gentleman in Philadelphia, written in 1879, which was copied in the *Medical Brief*, of St. Louis, Mo., I proposed a plan for preventing the attacks of this fatal disease. This was by measures to be used by those who were well, but who were exposed to its contagion. My ideas were based upon the fact that this disease (whether or not it depended upon the presence of a specific germ) at its inceptive stage was local, and generally had its seat in the fauces, which if acted on and modified by suitable agents, would not offer a nidus for its reception. If micro-organisms are the agents by which diphtheria is caused or propagated, then they will be less likely to effect a lodgment upon surfaces which are subjected to the repeated action of remedies which, while uninjurious, may also prove efficient in the destruction of such organisms. I also selected agents well known for their activity and value as tonics, depurants and antiseptics, and which would be adapted to the treatment of the disease should our efforts at prevention prove abortive.

The prescription is as follows—the alcohol being a comparatively recent addition :

℞	Tinct. of the chloride of iron	2 to 3 drams.
	Chlorate of potash	2 to 3 drams.
	Quinine	15 to 20 gr.
	Hyposulphite of soda	1 to 2 drams.
	Alcohol	1 ounce.
	Water	6 ounces.[*]

I have directed and used this formula in many families here for years past, by whom it has always been kept, and others have employed it elsewhere by my advice ; and though the testimony must always be negative, I have never known a case of diphtheria to occur where it was used. The experience of one physician, however, cannot be conclusive upon such a subject, and others must examine into the merits of a claim of such importance.

In the early part of the past year, in a communication, made at his request, to my friend, Dr. Thos. F. Wood, editor of the *North Carolina Medical Journal*, I suggested that an addition might be made to the above formula in the case of children much exposed to the danger of infection—

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[*] M. S.—A tea-spoon to a dessert-spoonful two or three times a day in a little water—to be used by those exposed to the disease. The size of the dose may vary with the age of the subject and the nature of the exposure.

when, for example, the disease already existed or had recently occurred in a household. This consisted in the addition to each dose of 1-50 to 1-75 of a grain of the bichloride of mercury ; and it was based upon the special power of this agent in its action on micro-organisms—as an antiseptic and germicide.

Besides the earlier testimony of European observers, in the recent paper by Dr. Sternberg (*American Journal Medical Sciences*, for April, 1883), entitled "Experiments to Determine the Germicide Value of Certain Therapeutic Agents," the highest rank is given to this agent as a germicide —iodine, in his opinion, being next in order ; and he states as a confirmatory fact that they are now using corros. sublimate in Vienna, as a remedy in diphtheria. Prof. Pepper, of Philadelphia, following Dr. G. A. Linn's method, has reported the cure of a desperate case by corros. sublimate, given in doses of 1-32 of a grain, combined with other agents. Dr. Jas. C. Wilson, of Philadelphia, in an article in the same issue of the *American Journal*, recommends it as a disinfectant for the stools in enteric fever. These observations only confirm and strengthen the probable value of the suggestion I had long before made with regard to the use of this agent.

The employment with similar intent of salicylic acid, thymol, eucalyptus, the oils of gaultheria and mint, or the combination known as "Listerine," may prove useful ; but I do not think that vegetable products will modify mucous membranes as powerfully as mineral.

If diphtheria be so great a scourge, and the combination I propose be not hurtful, but beneficial—even if regarded simply as a tonic and roborant —if there is even a probability that it will prevent an attack, then I hope the profession will test the efficacy of this formula. If my anticipations become realized by the observations of others, such uninjurious agents as were advised in the original prescription will not be withheld even from the laity, but will be widely disseminated.

In conclusion, I would add, that I have found the same formula serviceable likewise in the treatment of scarlet fever ; and with the substitution of two or three drams of sup. tartrate of potash in lieu of the hyposulphite of soda, it has proved in my hands extremely valuable in erysipelas, in ulcerative sore throat, in cellulitis, and diseases of the lymphatic system, where there is swelling and puffiness of the subcutaneous cellular tissues.

INFRA-MAMMARY NEURALGIA OF UTERINE ORIGIN.

Chéron (*Revue Medico-Chirurg. des mal-des Femmes*) states that the following exerts a marked influence on infra-mammary neuralgia of uterine origin:

℞. Tinct Gesem	ʒ i.
Syr Simp.	ʒ i. ℥ ii.
Aquæ Dest	℥ vi. ʒ iv.

Take from three to five tablespoonfuls of this mixture half to three hours after eating.

ORIGINAL CORRESPONDENCE.

NEW YORK, Sept. 5, 1883.

MY DEAR DR. GAILLARD : In your issue for August, lately received, a correspondent from Wheeling, Va., says, "What if the medical profession in the great State of New York were to bestir itself as actively to *stamp* *out* medical quacks, such as the notorious Hale, as it has done to render popular and maintain the so-called New Code!"

I beg you will inform your anonymous correspondent that that is just what we are trying to do, and what we have been trying to do for the last three years.

Since the passage of the Medical Law of 1880, no less than fifty-seven illegal practitioners have been arraigned at the bar of justice, and many of them have been fined, and have either left the State or ceased to practise. It has been, and probably will continue to be, the policy of the Medical Society of the county of New York to endeavor to crush out medical quackery by every means in its power.

Your correspondent goes on to say, "Just think of it, that such a villainous fraud as Hale should boast of his medical registration in New York, and have been permitted to establish his head-quarters on Broadway!" Your correspondent should be informed that registration at the County Clerk's office does not make any person a legally qualified practitioner in this State. To be a lawful practitioner one must have a diploma from a chartered medical school within the State, or from the Regents of the University, or a diploma from some chartered medical school without the State, duly *indorsed* by the faculty of some chartered medical school within the State, and then must register at the County Clerk's office.

Soon after the new law came into force, many persons were permitted to register who were without the proper credentials. For some time, however, the County Clerk has been extremely careful, and has permitted no one to register about whose right to practise there could be the slightest doubt. Not a few of those who registered illegally have been sucessfully prosecuted. In not more than half a dozen cases has the County Medical Society been beaten on the merits of the case.

I am not aware that much was done for the suppression of quackery under the Old Code in this State. It is true that the task is not an easy one, and that quackery seems to be hydra-headed, but we shall be glad to have the sympathy of your correspondent in the work, as of all honorable physicians.

Very respectfully yours,

DAVID WEBSTER, M.D.,

President of the New York County Medical Society.

JONESBORO, ARK., Sept. 4, 1883.

DR. E. S. GAILLARD, M.D.—*Dear Sir:* There is a matter of which I wish to say a word to the medical profession generally, through your valuable journal. I attended (merely as a spectator) the State Medical Association, at Little Rock, in May last, not being a member. During the discussion, I was much surprised to learn that the local or auxiliary societies contained a large per cent of undergraduates, or irregular physicians. It was stated that in some of the societies that that element was largely in the majority. This fact cropped out incidentally. Another feature of this State Medical Society is, that they have what is known as permanent members. It is provided in the Constitution and By-Laws that physicians living in counties in which there are no local medical societies, upon application, may become members of the State Medical Society, by the payment of a fee of five dollars, provided they are graduates of some respectable Medical College. Such members have all the rights of those belonging to said society, except the franchise; they have no vote. My object in writing this must be apparent to you at once. I wish to know if a State Medical Society, organized upon such a basis, and containing such an element, will be allowed representation in the American Medical Association? Here you see, in some instances, the *non-graduate* has the advantage over the *graduate.* If he is elected as a delegate by his society (which may occur), he has a vote upon every question which may arise or be brought before the Association, while the permanent member is compelled to remain *mute.* Yet some of the members of this mongrel gathering were loud-mouthed in demanding some legislation that would protect them in some way, which did not appear clear to your correspondent. One leading member went out of the way to make an indecent attack on the last Legislature, because it refused to pass what was known as the McGarock Bill, when in fact the bill was never constitutionally before the House. What I mean is, the Constitution of our State has a clause which provides that no bill, making an appropriation for any purpose whatever, shall become a law, until it shall have been considered in committee of the whole. This bill had not been so considered before it was placed on its third reading. I made a motion to reconsider the vote, by which the bill was placed on its third reading, that this mistake might be corrected, which was defeated; Mr. McGarock, who had the bill in charge, voting against my motion. This killed the bill. It will be long before such a mixed body as that receives any protection from the law-making power of the State.

If we can indorse this, why not receive the New York New Code? Is not one as objectionable as the other? Nay, more so. I would like to have opinions upon this subject.

Respectfully,

J. A. MEEK.

MEDICAL NEWS.

THE NEWS DEPARTMENT is made up to October 1st.

THE REVIEW DEPARTMENT is omitted from want of space; eight reviews prepared for this number will appear in October journal.

A BUST of Professor Erichsen and a sum of money were presented to him a few weeks ago by a number of his pupils and admirers. The bust is deposited in the University College. Mr. Erichsen will use the money to found a prize for skill in operative surgery.

THE JOHNS HOPKINS HOSPITAL.—It is said that the medical department of the Johns Hopkins University, of Baltimore, will probably be opened about October 15th. Two of the University professors, Dr. Remsen and Dr. Martin, have been assigned, respectively, to the chairs of chemistry and physiology.

THE PRESBYTERIAN HOSPITAL, NEW YORK.—Arrangements are now being made for increasing the capacity of this hospital and thereby extending its usefulness. The governors are contemplating the erection of a new pavilion, and also the appropriation of some of the spare room in the executive building for extra beds. A new passenger elevator has been erected in the main building, and a new ambulance, which is claimed to be the best made and most complete one in the city, has been recently presented to the institution. Since the establishment of the ambulance service in this hospital, the number of acute surgical cases has increased to such an extent that the wards are constantly crowded to their utmost capacity. The attending staff proposes to utilize this material for free clinical instruction to students and practitioners during the coming fall and winter.

A New Building for the Health Department.—It is understood that the President of the Board of Health is preparing an application to the Board of Estimate and Apportionment for funds with which to provide a new building for the use of the Health Department. Heretofore the department has occupied a portion of the Police Department's building. In view of the increasing bulk and the valuable nature of the records kept by the Bureau of Vital Statistics, and of the increasing duties of the department in general, there can be no doubt that a new building will be found to be positively necessary before many years.

The *Journal of Psychological Medicine and Mental Pathology* has ceased its publication. It is one of the old journals connected with the last generation, and was first issued under the editorship of the late Dr. Forbes Winslow, Sr.

The Cincinnati Board of Health.—The solitary medical member of Cincinnati's disreputable board of health, Dr. J. C. Beck, seems to have turned upon his critics, having caused warrants to be issued for the arrest of two persons connected with a newspaper called the *Penny Post.* It seems that the hide of the rhinoceros can be penetrated.

M. de Lesseps on Cholera.—In distributing the prizes at the Lycée Henri IV., M. de Lesseps, an old pupil of the school, delivered a chatty speech, in which he gave some interesting anecdotes from his own life and experience. When he came on leave from Alexandria, the journey on board a man-of-war, a good sailer, took thirty-seven days, and there were forty days' quarantine at Toulon. He would say something of quarantine and the cholera. He had often violated quarantine, for in former days it was impossible to submit to them. As to the cholera, the present terror was exaggerated. The chief thing in travelling where there were epidemics was to be fearless. Courage was a great preventive, and he had seldom known a courageous man to have cholera or the plague. These diseases began with a derangement of the stomach, which sprang from weakness of character and will ! !

Professor William Osler, of McGill Medical College, Montreal, has been elected a Fellow of the Royal College of Physicians of London, England. Dr. Osler has held the chair of physiology in the above college for many years, and has done much good work in original investigation.

Unusual Effects of Whiskey.—A Mississippian named James Hurlburt, while returning home one morning on the Louisville and Nashville Road, was attacked by delirium and threw himself from the car window. The train was running very fast at the time. Conductor Keeler stopped the train and went to the man's assistance, when the latter drew a pistol and fired, the ball taking effect in a note-book in the conductor's breast pocket. Hurlburt was subdued and lodged in the station there. He was not hurt by his remarkable leap, and the conductor also escaped uninjured.

American pork has a bad reputation on the Continent. The Greek Government has now forbidden its importation into Greece. It is already forbidden (from fear of trichinosis) in Germany, France, and Spain.

Cause of Scarlet Fever.—In a graduation thesis which has been specially commended by the Medical Faculty of the University of Edinburgh, Dr. Dyce Fraser has given the results of his investigations on the etiology of scarlet fever, which he has been carrying on in the University Physiological Laboratory during the past winter. From an examination of the blood, urine, and throat discharge of a number of cases, and from a series of cultivations of desquamated epidermis, Dr. Fraser has been led to conclude that the disease in question is not due to a bacillus, but that it is most probably due to a micrococcus. Dr. Fraser is still engaged in his research.

EDITORIALS.

The Medical News—Quinine Pills—and the Higher Walks of Journalism.—In the last issue of this journal, something was said about "The Higher Walks of Journalism" and the foolish pretension of those who claim for themselves an editorial dwelling in those exalted regions. One of the American journals has, since that article appeared, not only claimed for itself a life in those "higher walks," but claims that it alone is entitled to such a position; and that those who are so rash as to differ from it in its views and course must, from that cause, descend to a lower plane.

The journal taking this position for itself is the *Medical News*, of Philadelphia.

Every one remembers the fact that, in the latter part of 1882, the *News* published the results of analyses, made by its "*Commission*," of the quinine pills manufactured by several of the largest pharmaceutical Houses in this country—and every one remembers the additional fact that, in publishing these results, the *News* claimed that such Houses as "W. H. Schieffelin & Co.," "McKesson & Robbins," "Parke Davis & Co.," and "Wm. R. Warner & Co.," were selling quinine pills which did not contain the amount of quinine represented on the labels.

Every journalist certainly read that remarkable statement of the *News* with care; but every journalist who knows anything of analytical chemistry knew that so much very bad and unpardonable work is done by those claiming to be expert chemical analysts, that it was deemed only just, to those whose commercial honesty and pharmaceutical accuracy were thus assailed, to wait for *established facts*, and then to be governed accordingly.

That there was any weakness, or injustice, or corruption, or cowardice, or venality in such a course was never supposed to be possible in the minds of just men, and it is only since the *Medical News* makes such a suggestion in regard to the American Medical Press, that any one of respectability has even heard of such an idea. In its issue of August 25th, 1883, the *News* publishes the following editorial remarks on this subject: "When, last December, the *Medical News* published the results of its analysis of certain leading brands of quinine pills, we observed, without any special surprise, that little, if any, notice was taken by our contemporaries of the rather startling results, *in spite of the importance to the profession and the public of the fact that this dominant pharmaceutical product seemed to be very largely manufactured of short weight.*

"We say that we were not surprised, for we were advised that some manufacturing houses, whose wares had failed to come up to the standard, and whose advertising patronage was large and influential, had issued requests (*perhaps we might rather say commands*) that the investigations of the *News* Commission *should be sneered at or suppressed*, *under threat of withdrawal of advertising.* Our information came from sources which we could not discredit, and though we were unable to obtain copies of the letters in question, we could not disbelieve their existence, *humiliating though the fact might be to professional journalism.*"

Such is the language which a respectable journal makes against all of the medical journals of this country.

It is not deemed necessary to make any comments upon this wholesale and wanton assertion of the American Medical Press, for each journal will know what reply to make. It is not deemed necessary, either, to denounce the statements made as unjust and untrue, for the reader will not even wait for the reading of such a denunciation to come promptly, of his own accord, to such a conclusion.

As to the pharmaceutical Houses which the *News* thus charges with having undertaken, first, to defraud the public, and then to bully, or intimidate, or buy, or suborn the Medical Press, they can take care of themselves, and will doubtless do so. It is, however, deemed best to criticise some of the assertions and suggestions made by the *News*, and then to turn to something more pleasing, congenial, and profitable.

If the editor of the *News* had been just, or even polite, or prudent, he would never have denounced, for weakness, or cowardice, or venality, an entire corps of medical journalists, many of them his professional, personal, and editorial seniors ; many his superiors, and the majority of them his equals—whether in literary, professional, or moral culture.

If he were fair in judgment and just in dealing with the character of others, he would have certainly assumed that his editorial brethren, before stabbing the fair names and prized reputations of some of the best commercial Houses in the world (and on the mere *ipse dixit* of a junior member of the editorial corps), preferred, in all justice and courtesy, to wait for the vindication which these maligned Houses would most certainly offer.

If, too, the editor of the *News* had remembered that he never, in his original report, gave the names of those wonderful chemists in his employ who found the quinine pills offered by select Houses "short in weight," he would have understood that the editorial corps had all-sufficient reason for not receiving *an anonymous report of the News as medical gospel, and making haste to foolishly proclaim it.*

The editor of the *News* is one of the younger members of the editorial corps, but he must certainly have learned enough, ere this, to know that one of the most asinine acts of which even a callow and suckling editor could be guilty would be the acceptance of *an anonymous report of very difficult chemical analyses.* Be it spoken to the credit and praise of the medical editorial corps of this country, that there was not one, even among the babies in the work, who committed so foolish a blunder ! There was here, at least, no weakness, or cowardice, or venality, but that sound judgment and common-sense which a large editorial corps may be expected to manifest.

Again, after all of this foolish denunciation and inexcusable insult manifested toward sterling commercial Houses, and a reputable corps of editors, what is the present status of this whole question ? It can scarcely be believed, yet such is the truth. It is, that the last chemical analysts (in no respect the superiors of their predecessors and, if anything, inferior to some of them) report that they agree with some of their predecessors, and disagree with others! Lame and impotent conclusion! And, what is even more important, some of the best analytical chemists in this country declare that the charge of the quinine pills indicated being below weight is untrue and absolutely unsustained!

The editor of the *News* thinks that all who agree with him and his employés are exponents of the supreme law, but that those who do not thus agree with him are humiliatingly bought and disgracefully controlled. And this spurious and paltry attempt at journalistic autocracy he expects to go unchallenged, and its representative unscathed.

If any one who deliberately cuts a stick or bludgeon, wherewith to rap the knuckles or heads of others, has his chosen weapon well used upon himself, he should not be surprised, and has only himself to blame.

In the extract quoted from the editorial mentioned, if there is any one charge which is most prominent and offensive, it is that wherein it is alleged, that the fear of the withdrawal of "advertising patronage" caused medical editors to receive "commands" from advertisers as to what they should do, and that, for the reasons given, these "commands" were servilely obeyed; "humiliating though the fact might be to professional journalism."

This means (simply expressed) that the *News* charges the editorial corps of this country with being controlled and directed by advertising patronage, corruptly bestowed and corruptly received; and that the editors of this country are suborned for corrupt uses and purposes by the advertising public! That editors publish advertisements containing claims known to be false (as in advertisements of quinine pills falsely claimed to be of full weight), but refuse to editorially declare what they believe to be the truth, for fear of suffering pecuniary loss! That they are bought.

It would be degrading to the editorial corps and to the large pharmaceutical Houses of this country to make a defence, or even a reply, to such charges, and they are only cited and recorded here, that they may be duly remembered and appreciated by those accused.

It is fair, however, to demand that a journal making such heinous and disgraceful charges should be, "like Cæsar's wife, not only virtuous, but above suspicion." But what are the facts?

That journal has, for weeks together, carried, for money, in its advertising pages, (and on one of the most conspicuous pages) the advertisement of one of the accused drug Houses; for carrying whose advertisement it denounces the medical press! And the editor of that journal not only declared originally but has declared repeatedly since, and declares now, that these pills, *advertised in his journal, are not what they are represented to be!* That they are "short weight," or that they are fraudulent! That journal, in other words, carries, for money, an advertisement of wares which the journal alleges to be fraudulent in weight and character! It disseminates what it asserts to be false and untrue, because it is paid for so doing! Is that true morality, or transparent sham? And is the representative of this sham the missionary who is to preach the gospel of journalistic character and purity?

It may be said that the advertising department is owned by the publishers and controlled by them, and that the editor does not and cannot control it. This is all true. As a general rule, any one paid to edit a journal is responsible for the text pages, and not for the advertisements or for their character; *but when a question of truth and principle is involved*, can he honestly take refuge behind so paltry a plea? Is he to continue as the editor, can he continue to be the editor, with any self-respect remaining, when there is carried, for money, in one department of his journal what he editorially declares to be false and untrue? Editors paid for editing a journal should be held as strictly responsible for the character of the advertising department, as they are for that of the text; and it is mere cowardice—evasion—for any editor to take refuge under any such plea. *He has his resource: it is to withdraw, if what he declares to be untrue, and believes to be untrue, is yet*, for money, issued as an advertisement *as genuine and true.* If under such circumstances, such facts, indeed, an editor is thus repudiated by his own journal, he has but one course which manhood and propriety demand; it is to withdraw from a journal, in whose advertising department he is made impotent and ridiculous. But if he does not resign, he should, at least, never charge that other editors carry, for money, advertisements which they believe to be unreliable and untrue!

In conclusion, it may be stated, and should be stated, that the *Medical News*, of Philadelphia, is the only journal in this country which has advertised quinine pills believed by the journal advertising them to be deficient in weight and defective in quality. Whether under such very peculiar circumstances, its editor is a proper missionary to convert the editorial corps from its alleged sins, or an appropriate apostle in behalf of journalistic morale, is left for the profession to determine.

NOTE. As long as pill-making by hand, or by the best machinery, must be so far imperfect, as to fail to secure a mathematically correct distribution of the pill elements throughout the mass, so long must some of the pills be deficient in weight and some of over weight in their medicinal strength. And so long as the best buyers of quinine, by analyzed samples, must occasionally receive quinine not up to the sample's standard (a fact inseparable from commercial intercourse), so long will quinine pills occasionally contain traces of other cinchona alkaloids. But to contend, because some quinine pills are of short weight, and because traces of other alkaloids are occasionally found, that the makers of these pills have forfeited confidence, is really to evince, not only an absolute want of justice, knowledge, and fairness, but a want of familiarity with the subject, and a want of common-sense.

The analyses of the quinine pills mentioned by the *News* have been triumphant vindications of these pills, and of their makers, and have produced a confidence as welcome as it is remunerative.

That any of the Houses indicated by the *News* have sought, directly or indirectly, to check criticism, or to influence improperly editorial comment, correspondence shows to be absolutely untrue.

A BOARD OF HEALTH AT WORK.—The experience of Dr. Hale, the notorious scamp, who was compelled to leave West Virginia a few months ago, by the State Board of Health, is still fresh in the public mind. Since his departure the visits of travelling medical gentlemen of eminence and skill who engaged to cure all the diseases known to medical science, and some not in the ordinary catalogue, have been pleasingly scarce. However, a mountebank, calling himself "Dr. Johnson," made his appearance on the street in Wheeling, selling a patent cure-all. Dr. J. E. Reeves, Secretary of the State Board of Health, happened to see him, and pretending to have an arm afflicted with some terrible ailment, he asked the "Doctor" if he could cure it. He replied that he could, in about ten minutes. Dr. Reeves, instead of advancing to undergo treatment, left, with the remark that he would have "Dr." Johnson's case attended to in the morning.

On the next morning a warrant was sworn out for the stranger before "Squire Arkle," and he was arrested. He asked the justice to accompany him to Dr. Reeves's office to see if some compromise could not be agreed upon, and on the way, asked the justice to excuse him until he went back to his hotel and got his diploma. That was the last seen of him, and after waiting at Dr. Reeves's an hour or so, it began to dawn on the squire's mind that his bird had flown. He escaped punishment, but the State is rid of another rascal.

Tanned Skins and Gov. B. F. Butler.—The Springfield *Republican*, says: "To better the administration of our State charities has been the earnest labor of self-sacrificing people for many years, but we do not discover that the governor has a particle of sympathy with that effort. We do find him, however, loaning bits of tanned skin, prepared by irresponsible medical students, to the leading flash weekly of the country, that the State may be accused of skinning its dead poor. Surely, the man who does this loveth and maketh a lie."

Advertising Surgical Operations.—We are receiving from day to day slips from newspapers, sent us by subscribers, detailing the wonderful exploits of surgeons in different parts of the country. They form very amusing reading, and show that the ignorance of the lay press regarding the importance and rarity of such operations is only equalled by the shameless audacity of the advertisers.—*New York Record.*

Note. This journal has been exposing this inexcusable evil for fifteen years, but has been only abused for it, and termed a "Police Gazette." And so it has been, and will be; for a police is necessary to keep the malefactors in order.

A New Method of Destroying the Fœtus in Cases of Extra-Uterine Pregnancy.—Dr. Kochmann, of Strasburg, reports a case of extra-uterine pregnancy, six months advanced, in which the fœtus was destroyed by a single application of sparks from a static battery. The duration of the sitting was about fifteen minutes, and sparks about one and one-half centimetres long were drawn.—*New York Record.*

[This treatment has often been mentioned in this journal, but it can scarcely be given too often.—Ed.]

Death Rate of Convicts.—Recent reports show that the death-rate of convicts working in penitentiaries is but a little more than half the death-rate among those who are "farmed out to contractors" and are made to work outside of penitentiaries.

Chicago Lard.—"In the course of a dispute between Chicago dealers in lard," said the *Boston Medical and Surgical Journal*, for August 2d, "it has been incidentally disclosed that most American lard is adulterated from ten to one hundred per cent with oleomargarine, stearine, cotton-seed oil, tallow, and terra alba." Replying to this sweeping allegation, the *Weekly Medical Review*, of Chicago and St. Louis, states that evidence will shortly be published concerning the matter, and that it will not be found to justify the imputation.

While cotton-seed oil is technically an adulteration, it is really for culinary purposes fully as good, if not better, than lard. It is better than lard in pharmacy, except for ointments, as it will not penetrate the skin and carry medicaments with it.

NOT YELLOW FEVER, BUT MALARIAL RHEUMATISM.—The following telegram was published very generally about the last of August:

Commodore English received the following telegram from Lieut-Commander Welch this morning: "One new case yesterday, second daughter of Mrs. Owen; one death. Mrs. Owen, at 10 o'clock last night; marines reported well. Surgeon Murray, of the Marine Hospital Service, has written to Surgeon-General Hamilton, under date of Pensacola, August 23d, saying that the two cases sent from Pensacola to the quarantine station on the evening of the 22d were not yellow fever but malarial rheumatism. One died the same evening, three hours after arrival. Neither the living nor dead show any signs of yellow fever."

It seems that Surgeon Owen died at the Pensacola Navy Yard of yellow fever; then his wife died of the same disease; and then his daughter, son, and servant sickened of the same fever.

Two cases outside of the yard were ill and sent to quarantine station. Two accomplished physicians said that they had yellow fever; one died. Now, with these facts, any sane physician would say that yellow fever had overwhelmed each of these seven persons; but a certain Surgeon Murray is sent there by the "*Surgeon-General of the Marine Service for Sick and Disabled Seamen*," and, after making a post-mortem, informs the public that the dead men had succumbed to "malarial rheumatism!" As though any one had ever died of such a disease! As if there is such a disease! The profession are sick of this official charlatanism and tomfoolery! No one of any sense, to-day, believes that yellow fever can be diagnosticated by post-mortem examination. The time for such nonsense and such nonsensical claims has passed. There is not one lesion known which is absolutely pathognomonic of yellow fever. To attempt such folly is ridiculous enough, but to declare that the dead was a victim, not of yellow fever, but of "malarial rheumatism" is sufficient to make the profession a laughing-stock before the world! It is time, indeed, that the "cap and bells" were put aside, and that the profession ceased to masquerade before the gaping vulgar.

The telegram ends thus absurdly: "Neither the living nor the dead show any signs of yellow fever." The dead being "stiff" are the victims, of course, of "malarial rheumatism—" that new and fatal disease!

If, however, the dead show no signs of yellow fever, why was the post-mortem made?

What the Pensacola Board of Health and the physicians of that city think of "malarial rheumatism," and of there having been no yellow fever in Pensacola, may be determined from the following:

PENSACOLA, FLA., Aug. 30.—The Board of Health of Pensacola and Escambia County have honestly announced, according to a previous promise, the first reported cases of yellow fever, and these cases so reported were at once removed to the quarantine station, the locality thoroughly fumigated, and precautionary measures adopted.

THE KISS PSYCHOLOGICALLY CONSIDERED.—Social circles and the reflecting portion of the medical profession (that is all of it) have been very much interested in the statement that, at a recent wedding at Wilkesbarre, Pennsylvania, the bridegroom immediately after the wedding ceremony gave his bride, as is often done, the familiar kiss, and then wrenching a leg from a chair proceeded to assault every one present—old and young, men and women, boys and girls—the bride only being excepted. The company fled in dismay, but this not protecting them, there was organized a corps as gallant as the "Old Guard" at Waterloo, and this, charging upon the bridegroom, captured and then confined him. He was found to be insane or delirious. The question to the psychologist is this, What was the cause of that condition? Was it that this man had never before kissed a woman, and was so moved that rapture became delirium? or is it that at times the kiss thus bestowed brings on a transport bordering on maniacal excitement? If either assumption be correct, it is evident that the medical profession is called upon to provide a remedy absolute and complete for so dangerous a contingency. If kissing a woman, or even a bride, for the first time has such an effect, there is but one rational remedy for it, and this is, that a man should get himself accustomed to such physiological commotions by kissing women as often as he has an opportunity for so doing!! Such medical advice must command professional confidence, as it represents the most efficient mode of practice, that is, not the cure of this form of mania, but the prevention of it. And the prescription, too, is such as to commend itself to the good taste and best judgment of every physician.

This young man, it is needless to say, was neither a physician nor a clergyman.

SUBSCRIPTION BILLS.—The *Pacific Medical and Surgical Journal* states that it has on its books the names of a number of subscribers who are behind-hand in their accounts. The inexperienced reader may believe this to be true, but those who are practically familiar with journalism will regard the statement as a libel on the profession. That respectable physicians should, for months together, receive medical journals, published by their brethren at great cost, and not pay for them promptly, is something too monstrous for belief.

THE POPE AND MEDICAL COLLEGES.—According to a telegraphic despatch to the *Boston Journal*, a pastoral of Mgr. Fabre, on the Laval University and Victoria College question was read in all the Catholic churches in Montreal on a late Sunday. The pastoral commands the Sister Superior of the Hotel Dieu not to admit the Faculty and the students of Victoria College within the precincts of the hospital hereafter.

This opens a new era in medical college quarrels and competitions. Every medical college, in every "medical centre" (there are a great many centres in the medical circle), should at once instruct "the pope" to have the other medical colleges excommunicated, and then, taking it comfortably, "spoil the Egyptians." It is a brand new idea for the medical colleges, but no charge is made for its dissemination.

NEW AND GOOD WORK FOR THE POLICE.—The cruelty of hired nurses to infants and children is too proverbial and familiar to need demonstration. Very much sickness, nervous troubles, spinal, and hip disease is due to this manifest cause. If policemen were instructed to arrest all such malefactors, much of this cause of suffering would disappear. Of course, only the ugly nurses would be arrested, but this would frighten the others, and be perhaps as valuable.

THE VALUE OF A MEDICAL STUDENT.—Medical college Faculties have always been at a loss to know how to grade the members of its classes. The difficulty has been in first determining the value of the most worthless.

This difficulty has just been removed, and it now appears that the value of the most worthless is claimed to be $2000. If this estimate be sustained, it will become a very dangerous proceeding for a Faculty to impugn in any way a student's standing, and a danger exposing them to trial, if they should, for any cause, refuse to grant to a student his diploma.

A member of the class of 1883 of the College of Physicians and Surgeons, of Baltimore, who was rejected in his candidacy for a diploma, petitioned the court to issue a writ of mandamus upon the Faculty that they shall issue his diploma to him, claiming that his rejection had damaged his character to the amount of $2000. After argument before the court the judge decided in favor of the faculty, but an appeal has been taken.

The most amusing part of this proceeding is the student's small estimate of his character. Others hold that he was practically ruined, but he thinks that $2000 would restore to him his fair name and make him " even." If every rejected student is to be paid $2000 and his diploma fee, who can tell how many will be rejected ?

THE GREAT DANGER OF VERY TALL HOUSES.—The municipal authorities of Berlin have adopted regulations forbidding the erection of houses over seventy-nine feet in height and having more than five lodging floors ; at present they are built with seven or eight stories. It is a source of great pleasure to find that in one city, at least, medical opinion has been sufficiently strong to put an end to the building of dangerously high structures. One has to reflect but little to appreciate how absolutely such structures impede the direct rays of the sun and the sunlight, with the marvellous life-giving and life-preserving power of its actinic rays. Streets with such structures are damp, dull, gloomy, cold, and surrounded with all the dangers which these factors of disease originate and develop. Then, ventilation in such streets and such houses is very much impeded. The crowding together, in small compass, of so many human beings generates an ochlesis unavoidable, and is the parent of typhoidal and diphtheritic troubles. The drainage of such structures is often impeded, and must be more difficult and more often out of order. The dangers from fire, and the inability of reaching the higher stories by fire apparatus is evident to all, and the difficulties of escape from fire are manifestly multiplied. It is marvellous that in New York City, where enlightened opinion should stand as a beacon-light before the people, the medical profession and the Board of Health are entirely silent upon this great sanitary evil, and it is even considered by the secular press as no evil at all, but a great good ; an evidence of " smartness," development, enterprise and business acumen. It is, in truth, a stupendous evil, and physicians should use their very best efforts to control it utterly and absolutely.

BALDNESS.—Those who read Professor Reclam's entertaining article on this subject, on page 213 in the last number of this journal, will be pleased to learn that very much the same views were expressed in 1853, by Prof. Austin Flint, on page 649 of the *Buffalo Medical Journal* of that year. Prof. Flint, however, while being quite as jocose on the subject as his German brother, differs with him, somewhat, in his views. While Prof. Reclam attributes baldness to the excess of heat and excitement and the physiological results—relaxation and debility—caused by wearing a " stove-pipe hat," with its rigid band and air-tight construction, Prof. Flint thinks that the " bald pate" is due (when not caused by that intense study and research, for which Americans are so familiarly notorious) to the want of ventilation from defective circulation in the scalp ; this deficient circulation being caused by the pressure of "the stove-pipe hat" on the blood-vessels supplying the hair bulbs.

It is evident that this last reason is a strong one, though it is probable that if the views of the American and German professors were united, the true cause of very many cases of baldness would be more fully explained.

That ladies, who do not wear "the stove-pipe hat," do not, like men, very often suffer from the premature loss of the hair is, as Dr. Flint observes, very evident to all; and it seems to be only reasonable to conclude that when human beings wear, for a hat, an apparatus particularly efficient in diminishing the blood supply to the brain, and in overheating the scalp, they must expect to suffer the penalty so much dreaded and yet so much derided by all.

Those who wear "the helmet" suffer very much from baldness, and that this effect is due to the causes suggested seems most probable.

Willis, the philosopher and poet, has beautifully described the "Roman soldier who, helmed and tall, stood by the gate of Nain," but he does not say that he was bald or deserved to be; this omission, however, was manifestly due to the fact that Willis had not either the humor or the discernment of a physician.

THE ATLANTIC MEDICAL MONTHLY.—Two numbers of volume one have been received. They are well prepared and issued. The editors are Drs. Robert B. Stover and Henry G. Houston. The work is published at Richmond, Va. The cost is $3, and each number contains eighty medium-sized octavo pages. There were two journals in Richmond, Va., and now "there's another Richmond in the field." May it fight a good fight, and win a just and abundant reward.

Adam Smith says that every one has an overweening confidence as to his own good fortune; and while few will admit this fact, it seems to be at least true in regard to very many who essay the wearying, endless labor of journalism. It is best so. There would, otherwise, be no new blood in the journalistic body, no failures to give comfort to the many who have failed, and no companions to the few who succeed.

One is tempted here to cross the fence of the journal cemetery, and to muse over the many whose forgotten remains "lie buried here;" to philosophize over these sad endings of bright hopes and gilded dreams; over the fruitless race of ambition and the fond aspirations after distinction; even over the weary life of those who did, in their lives, pluck the golden apples of success, to find them, like the mythic apples of fable, turn to ashes on the lips. But all go within this enclosure sooner or later, and it is best to leave the white memorial tablets of those who have fallen and are gone; best to turn back again to the company of the living; to press, with the very best wishes, the hand of each, and to wish for each worker in this broad field, prosperity and success. And in this pressure and this wish, for none is it more warmly given than for those younger brethren who, in Richmond, have begun their voyage of editorial life.

It was the father of one of them who tempted the writer of these few lines to enter the field of journalism very many years ago. In those days, very soon after "the dispersion at Appomattox," when the time had come to "furl that flag;" when Richmond was a chaos of broken dreams and blighted hopes, and those returning there sought to take up anew the battle of civic life, with sad memories of the recent past, and with darkest anticipations of the future. The adviser and dear friend has long since gone, but his son, in these best wishes for his own success, may feel that the father is not forgotten.

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Scientia et Veritas Sine Timore.

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AND

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ORIGINAL ARTICLES.

ARTICLE I.—LECTURE ON THE SIGNIFICANCE OF UTERINE AND VAGINAL DISCHARGES. By ROBERT BARNET, M.D., Obstetric Physician to St. Thomas's Hospital, &c., &c.

Discharges of Air.—Air may get into the vagina, if not into the uterus, in the non-pregnant state. In the normal condition the walls of the vagina are maintained in perfect contact, and no air, or probably very little, is admitted. But where the parts are greatly relaxed, the vulva open as when the perineum is torn, the lower part of the vagina is no doubt exposed to the contact of air. But the very condition of patency prevents the retention of the air to such a degree as to lead to its escape in perceptible volume. Air also penetrates where too large a pessary is worn, which keeps the vaginal wall apart. But under peculiar circumstances air enters in large quantity, to be expelled with noise. Dr. George Harley details* a curious case in which he carried out decisive experiments to prove the correctness of the diagnosis. A pluripara frequently expelled air from the vagina with a loud noise. It was ascertained that no connection existed between the rectum and the vagina. Dr. Harley took a full-sized male catheter, to which was attached a long India-rubber tube with a stopcock at the other end. The catheter was introduced into the uterus, the end of the tube with the stopcock being placed in a tumblerful of water. No air escaped when the instrument was in this position; but, upon placing the open end of the catheter in the vagina, an instantaneous discharge of gas took place. The water was found to be sucked up through the tube into the vagina. It was found that the vagina sucked in and expelled the air by spasmodic action. It was further observed that the abdominal muscles assisted in the suction process. The uterus was completely retroverted. This displacement being remedied, and the patient's health improved by tonics, a cure ensued.

If you observe the vagina when the duck-bill speculum is applied, you will see the movements of rise and fall under the influence of the rise and fall of the diaphragm. Dr. Adolph Rasch has investigated† the phenomenon with great care. He says if a multipara whose genitals are normal be placed on her back, with the thighs flexed and abducted, and the vaginal orifice closed, movements caused by respiration are seen, but no air enters. In the lateral position the same thing is observed, even if the vagina is lax, and even when the perineum is ruptured. When the patient is placed in the prone position, or an all-fours, if the vulva be open, air will enter, because the intestines falling downwards by gravity cause a vacuum. Under this condition violent exertion may expel air, giving rise to vaginal flatus. If the abdomen be supported by the hands or by a bandage no air enters.

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* Obstetrical Transactions, 1863.
† Obstetrical Transactions, 1870.

There are several interesting applications of this knowledge. It teaches that the best position after labor, if not during labor also, is the dorsal; that the same position is also best in the case of pelvic abscess or hæmatocele discharging into the vagina; and that we must carefuly consider this respiratory rise and fall of the vagina when selecting pessaries. It is by turning to account this action that we derive the greatest advantage from the spoon or Sim's speculum. The blade drawing the perineum well back, whilst the semi-prone position of the patient favors the falling forwards of the abdominal viscera, air fills the vagina, counteracts the effect of inspiration, and thus enables us to get a good view of the os uteri. The same position also greatly aids our efforts at reducing inversion of the uterus, and in replacing a prolapsed umbilical cord.

In most operations, however, upon the uterus and vagina, where it is of importance to bring the uterus as low down near the vulva as possible, the dorsal position, by bringing the force of gravity to counteract the respiratory rise of the uterus, which can further be greatly aided by direct pressure by an assistant's hand above the symphysis pubis, is the best.

If we were to follow out in detail all the indications supplied by the examination of the discharges, we should be led through almost the entire range of uterine and vaginal pathology. This, in fact, is simply the converse proposition to one already stated—namely, that almost every uterine or vaginal disease is attended by discharge. But to adopt the discharges as our point of departure, from which to proceed to study and classify the diseases of which they are consequences, would be a most intricate course, and not the most orderly or profitable. I will, therefore, not pursue this method further than to give one instance of how we may apply it to clinical analysis. We will at our next meeting take hemorrhage, and sketch what its purport is.

The Watery Discharges.—When these occur, you must, first of all, determine the presence or absence of pregnancy. It is no uncommon thing that discharges of water, more or less profuse, take place in pregnant women. This is the hydrorrhœa gravidarum. Gushes of water, quite clear, may occur almost at any time during pregnancy; but they are more frequent in the latter months, and especially in the last month. Happening at this time, they are commonly taken as an indication of commencing labor, and many are the false alarms which patient and doctor have to suffer from this cause. "The waters have broke," says the nurse. You go, as in duty bound, and find probably the os uteri closed, nothing resembling active labor-pains. What are you to? If you wait for labor, you may wait for a week, or two or three weeks. If, on examination by ballottement, you find the child still floats in the uterus, the os uteri not open, and no active pains, you may go home and wait in peace for another summons.

What is the source and nature of this hydrorrhœa gravidarum? Several theories have been expounded. The character of the fluid differs in some respects from that of liquor amnii. It is odorless, and resembles blood-serum, or the serous fluid effused in the peritoneal sac. Ruysch and Rœderer thought it came from ruptures of lymphatic vessels, or of hydatids of the uterus. Bohmer thought it escaped from a second abortive ovum; Delamotte and Cruveilhier, that it came from a cyst near the ovum; Deleurye, Puzos, Naegele, and Duboies, that it came from the inner surface of the uterus, being secreted externally to the ovum. Dubois says it is the result of loosening of the membranes from the uterus when the vessels pour out serum. Hegar says the source is the uterine glands of the decidua. Thus he describes* the glands of the mucous membrane as being found in the decidua at the sixth month of gestation, and argues that their sudden disappeaaance in the subsequent months is improbable. In a case of hydrorrhœa he found in the decidua vera, at the beginning of the eighth month, an enormously developed glandular body. At the bottom of this morbid growth was a general hypertrophic condition of the decidua and its glands. These gave out the excessive secretions.

In a case related by Dr. Graef,† repeated discharges took place, and the fœtus was expelled at the end of six months. The membranes were very delicate, and openings were found in them. In this case, it is probable that the fluid was true liquor amnii. In another case the patient suffered during the last three months from repeated watery discharges; the uterus rising and falling with the gathering and escape of the fluid. The membranes were found without rent. Graef regarded this as a case of catarrhal hydorrhœa.

I believe there are various sources. In some cases the fluid is liquor amnii. This may come either from rupture of the membranes, from rapid transudation under pressure, from rapid formation and accumulation of liquor amnii in the amnion, or from the bursting of a cyst formed between amnion and chorion, or between two layers of chorion, the proper amniotic sac remaining intact. In the mojority of cases, however, the fluid is not amniotic; for when once the amniotic sac has fairly ruptured, labor is not far off. It is, then, the result of a rapid secretion from the uterine glands, or from the cervical cavity. In the early months, whilst there is still a free space between the decidua vera and the decidua reflexa, there is a large area of glandular surfaces.

I have observed a *puerperal form of hydrorrhœa.* Thus, watery discharges may continue for a month or longer beyond the proper lochial flow. Generally in these cases the water is dirty, discolored, occasionally stained with blood, and offensive. The most common cause I have found to be the retention of a portion of placenta, or of clots in the uterus; but a polypus may produce like results. The watery discharges alternate, but not always, with discharges of blood. The fluid may, under certain conditions, collect in considerable quantity in the uterus, so that the organ becomes greatly distended before the collection is expelled in a gush.

Sometimes watery fluid is mingled with air, constituting *physo-hydrometra.* This is also a puerperal or post-puerperal condition, and is commonly the result of retention of some portion of placenta or membranes, and the admission of air into the uterine cavity. If an examination is made when the uterus is relaxed after labor, especially if the hand be introduced into the uterus, the vaginal walls are separated from their usual contact, and a channel is formed along which air easily enters. Merely turning on the side, or a little more prone, will often, by favoring the fall of the uterus forward, produce a vacuum into which air will rush. This is one of the reasons, amongst others, why I am unable to approve of the abolition of the old-fashioned binder, which some people would condemn for no better reason that I can see than because it is old-fashioned. After labor, especially in pluriparæ, the abdominal walls are so relaxed that they can give no support to the uterus. The binder does temporary duty for the inert abdominal walls.

The history of physo-hydrometra is, I believe, this: A portion of placenta, membranes, or clots remains in the cavity of the uterus after labor; some air gets in as I have described; decomposition ensues, and the gases of putrefaction are added to the air from without, whilst the os uteri is occluded by the placenta or blood-mass falling over it. When this occurs there is invariably hectic or irritative fever; peritonitis and septicæmia commonly attend; great abdominal pain; the enlarged, distended uterus can be mapped out rising as high as or higher than the umbilicus; and resonance is made out on percussion.

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* Monatsschrift fur Geburtskunde, 1863.

† Jenaische Zeitschrift, 1865.

One condition, the result of impregnation, often leads to copious and repeated discharges of watery fluid; the *hydatidi-form degeneration of the chorion.* In this case the ordinary signs of pregnancy may not be present, and even the patient herself may not think she is pregnant. There is, however, always evidence of enlargement of the uterus, and generally great pelvic distress. The water escapes in gushes at uncertain times; it is often tinged with blood, resembling red-currant water; it has not the offensive odor belonging to the watery discharges of cancer; sometimes, but not often until late in the progress of the case, cysts will be found swimming in the water; it is generally expelled with painful uterine contractions.

In a case we recently had in Adelaide ward, the nature of the disease was not at first suspected. There was some abdominal enlargement, retention of urine requiring the catheter, and most distressing pelvic pain with irritative fever. The os uteri was found high up above the symphysis pubis, whilst behind it the pelvic cavity was filled with a large, rounded, firm mass, taken to be either the retroverted gravid womb, or a fibroid tumor. One day a large quantity of water, blood, and a mass of chorion cysts were expelled. We had, in fact, the condition of retroverted gravid womb, complicated with hydatidi-form or cystic degeneration of the chorion.

Apart from pregnancy, watery discharges are often of grave significance. During and after the climacteric period, the most frequent cause is some form of malignant disease, especially the so-called cauliflower excrescence of the uterus. In this case other symptoms will probably point to the seat and nature of the disease. The fluid discharged is seldom clear; it is generally turbid, dirty, often tinged with blood, resembling water in which flesh has macerated; it contains shreds of flocculi of solid matter, the proceeds of superficial erosion or necrosis of the surface of the diseased growth, and is almost always of a peculiar offensive odor. It often alternates with hæmorrhage. Local exploration will place the nature of the case beyond doubt. Another form of malignant disease giving rise to watery discharges is the "oozing excrescence of the labia."

But we must remember that similar discharges may take place from polypus or inversion of the uterus. Hence we have another example of the wisdom of not pronouncing a diagnosis until we have made an internal examination. Water may escape in large quantity from the rupture or perforation of an ovarian cyst into the vagina. In such a case the rapid concurrent diminution of the abdominal tumor will lead to the right conclusion.

ARTICLE II.—ON THE USE OF THE LACTO-PHOSPHATE OF LIME IN ADYNAMIC FEVERS AND IN CONVALESCENCE. By R. BLACKE, M.D, Laureate of the Medical School of Paris, etc., etc.

In a great number of acute diseases, especially in typhoid fever, typhus, and certain forms of pneumonia, we often notice a condition of considerable adynamia, which takes its origin either in the peculiar character of the malady or in the constitution of the patient, and is constantly attended by a marked rise of temperature. This latter phenomenon may be rationally explained by an unceasing and general process of denutrition of the tissues. And, indeed, it is well known that all molecular changes in the form or composition of the constituent parts of the organism are attended with a disengagement of heat, and that these physiological manifestations are under the dependence of the ganglionic nervous system.

Every substance whose action tends to induce a sedation of this nervous system may, therefore, by suspending or diminishing combustion, lower the temperature and oppose the progress of spoliation and of weakening of the organism. It is chiefly through a sedative action on the ganglionic nervous system that we see medicaments, apparently less diverse, like alcohol, coffee, coca, and even arsenic, produce beneficial results; act, so to say, the part of anti-deperditors, and respond to that clear and precise indication, adynamia. Such is, I think, the reason of the undeniable success of alcohol in certain forms of acute affections.

But even where the acute condition of the disease no longer exists, there exists during the period of convalescence a general atony proportional to the gravity and duration of the febrile state which had brought on a period of arrest in the phenomena of nutrition of the tissues; several months may then pass on before health is re-established, if, indeed, it is ever entirely recovered; and we all know how essential it often is to institute a prudent and rational treatment at the termination of an acute disease, in order to prevent it from passing into the chronic state. With the view of warding off such results, I put the question, whether it would not be more rational to resort in such cases to agents capable of arousing in the organism the entire energy of the nutritive function, and this substance, I believe, is to be found in the phosphate of lime, combined with lactic acid, and already known in France by the name of "lacto-phosphate of lime."

I was led to the employment of this salt by the physiological study of its action in all living organisms. For it is not only in animals, but also in an equal measure in vegetables, that its action is powerful—since, a long time ago, botanists had stated that the ligneous skeleton of plants contained but insignificant proportions of the lime phosphate, whilst this substance was constantly found in the soft and nitrogenous parts of the plants. They had shown that the very existence of albuminoid substances was linked with the presence of the phosphate, and was everywhere found in direct ratio to the quantity of this agent, so that the more strongly nitrogenated vegetable food was precisely that which contained the more phosphates.

They had found out this substance in great abundance in the bud and growing leaves; they had seen it decrease in the fully-developed organ, and take its way to the grain, where it became concentrated, in view of the future development of the embryo. It is furthermore known that when a grain is deposited in a situation deprived of phosphate, it produces a plant, the development of which will continue only until the entire quantity of lime salt primarily contained in the grain shall have disappeared. Now, if we proceed to investigate the action of the phosphate in the mineral kingdom, we shall find identical phenomena.

I may recall the fact, that in the pregnant woman we see at the end of a few days the phosphates disappear almost completely from the urine and excretions, whereas in the pelvis and often in the cranium are formed osteophytes destined to disappear toward the latter months of pregnancy or at the beginning of lactation. It can scarcely be objected that these phosphates are uniquely absorbed for the formation of the skeleton. Boussingault, in a series of exact experiments, which cannot be too highly quoted, has shown that young animals take up much more phosphates than is required by the development of their bony tissues alone. Besides, Boussingault, Lehmann, Mayer, and other chemists and physiologists have shown in these cases also the strict correlation which links the presence of phosphates with that of nitrogenous substances, and the concentration of this salt in all organs which are going through a process of development, and they have announced the opinion that phosphate of lime is indispensable to the organization of albuminoid substances into cellules.*

In order to obtain a correct knowlege of the action of the lime salt of nutrition, I carefully submitted a pigeon to the test of taking food which was almost deprived of phosphate of lime. It soon lost all its liveliness, its appetite, a notable portion of its flesh and weight, and it excreted more phosphate than it absorbed. At the same time the muscular and fibrous tissues diminshed as rapidly as the skeleton. The addition of the phosphate to its ordinary food soon brought back the normal condition which mineral inanition had taken away. It may be also well to mention a fact which, though well known, had not until now been elucidated, that the vital activity of animals and their temperatures are proportionate to the quantity of lime phosphate which they contain; so that from the bird to man, and from man to the mollusk, the quantity of this salt follows a descending course.

The lime phosphate, as has been seen, plays an important part, after its absorption, and when it is carried away with the albuminoid substances through the circulatory torrent into the intimate recesses of our tissues. But that is not its only action. It is found in abundance in the stomach, forms an essential part of the gastric juice, and its action on the digestion of food is such that Blondlot considers the phosphate of lime to be the truly active element of the gastric secretion. And I may indeed even now state the fact that excitement of the appetite and facility of digestion constantly and quickly result from the ingestion of lacto-phosphate of lime.

Such is, I believe, the uniform action of this substance investigated in the animal and vegetable kingdom. It is scarcely needful here to refer to the use to which agriculturists have turned those notions in composing phosphated manures, and to the success which has justified their applications.

How is it that, in man, the same favorable results have not been seen to follow the employment of the phosphates, even in such cases where they seemed to be most clearly called for—I mean rickets, osteomalacia, and fractures of bones? A great many physicians had been led, indeed, to employ the substance in these cases, but never with those marked and precise effects which had been expected.

The failure of these attempts is satisfactorily explained when we observe that the preparation invariably prescribed was the pulverulent phosphate of lime, of which lactic acid is the natural solvent. Now, this latter substance enters only for two thousandth parts in the composition of the gastric juice. It could, therefore, transform and render absorbable only a very limited part of the ingested salt; whilst the remainder, disassociated, reduced into an imperfect powder, passed with the food into the intestines, and there produced constipation, and consequently an arrest of all organic functions, the ordinary result of this pathological condition.

It was, therefore, necessary, in order to obtain the beneficial effects of the substances, to introduce with certainty into the economy, large quantities of perfectly dissolved phosphate of lime.

It was in 1868 that Mr. Dusart and myself, after having investigated with care the phenomena of the digestion of phosphates in the stomach, were led to reproduce a substance representing exactly the composition of a portion of bone, rendered soluble and easily absorbable.

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* "It has been recognized," says Lehmann, "that in the inferior animals, in the organism of which carbonate of lime is yet the most abundant mineral substance, the phosphate of lime accumulates in the situations where new cellules are undergoing a process of development."

I have thought it necessary to enter into all the above details, because the facts which they involve, if they were not unknown, had at least passed without much engaging the notice of the profession, and because there had been no explanation of these physiological results. It seems to me that now it will be easy to understand how in convalescence, and in acute affections of an adynamic form, the functions of nutrition are restored, how after every digestion the assimilation of food is secured, and fills up the gap produced by disease, or arrests denutrition caused by grave fevers, substituting in its stead a contrary movement.

The lacto-phosphate of lime is at once an aliment and an article of food, and a medicament of the highest value. Its administration cannot, like that of alcohol, produce mischievous consequences, and it never depresses the nervous system charged with presiding over the transformations which take place in the nature or form of the elements of our tissues. It should be given in full physiological doses.

ARTICLE III.—MODIFIED INOCULATION. By C. H. TEBAULT, M.D, Visiting Physician Charity Hospital, New Orleans, La.

In offering the present paper for publication, I am influenced by no other motive than a desire to bring into somewhat more prominent, and I trust, too, more favorable notice, a subject hitherto attracting but a fugitive interest in the profession. I allude to modified inoculation.

My attention was first directed to this subject by the accompanying note from George B. Wood, M.D., "Treatise on the Practice of Medicine," fifth edition, page 406:

"It was an easy inference from the modifying influence of the system of the cow on the variolous contagion, that a similar effect might be produced by the milk of the cow on small-pox matter; and M. Theile, of Kassan, and M. Robert, of Marseilles, proposed the use of such a mixture in vaccination. M. Brachet, of Lyons, in the year 1832, made some experiments with satisfactory results, and these have been recently repeated on a much larger scale at La Charité, in Lyons, by M. Bouchocourt. Equal parts of cow's milk and variolous matter taken from the pock in the vesicular stage were mixed, and then children inoculated with the matter.

"Others were inoculated from matter proceeding from the vesicles thus produced, and others again from these secondary cases. Of twenty-one cases, eighteen presented solitary vesicles, confined to the place of puncture, having all the character of genuine vaccine disease; others, but a few additional pocks. The inoculation thus performed proved protective." (See *London Medical Times and Gazette,* April, 1854, p. 412.)

From the month of October, 1864, until the surrender of Gen. Johnston, I was connected with the Ocmulgee Hospital at the Confederate Post of Macon, Georgia, and, together with other duties, was appointed superintendent of vaccination. It was imperative at this date, by orders so requiring, that every soldier, before receiving his discharge from the military hospitals, should be closely scrutinized with reference to the probable degree of immunity he enjoyed against variolous contagion; if he were adjudged sufficiently fortified against the disease, a certificate so stating was furnished him by the surgeon in charge, which he deposited with his ranking medical officer on returning to the army. If, *per contra,* he was not deemed properly secured, vaccination, or revaccination, was required to be performed, as the case might be; and a certificate, giving date of operation, statement of result, etc., supplied him, to be likewise surrendered on rejoining his regiment or company.

The numerous vaccinations and revaccinations which such orders imposed proved ere long too exhausting for the supply of pure virus on hand. It hence occurred that many of our soldiers were vaccinated from scabs, procured indiscriminately from each other ; and it was precisely from just this quality of material that nearly all (excepting, probably, a fractional few which may have taken on erysipelas or gangrene) those distressing cases originated, jeopardizing at times life itself as well as limb.

These anomalous cases were by no means of rare occurrence, nor were they confined within the pale of the army. Liberal details of medical men were sent throughout the country to vaccinate all the healthy children, so that an ample supply of the purest vaccinia should be ever at hand for the use of the medical staff.

This admirably-designed arrangement was destined to defeat itself. At first, moved by the double motive of patriotism and a desire to protect their offspring from the contagion of small-pox, at this time widely diffused through every State of the Confederacy, mothers unhesitatingly yielded the arms of their infants and older childern to the charmed lancet of the surgeon. And thus for a while this most necessary work went successfully on without hindrance. But can it be wondered at that this spirit, but lately all aglow, on the part of mothers, should wane and dim into well-nigh extinction, when spurious matter, by some accident or other, was used on their nurselings, developing, in lieu of simple vaccine disease, ugly, phagedenic sores, spreading into unmanageable and destructive ulcers, ending occasionally in the forfeiture of life, or else seriously compromising the future usefulness of the limb ?

In this last view of the matter, it cannot be a subject of surprise that our legitimate virus could no longer sustain the ceaseless drain upon it. It was at this epoch in the history of the army, that I decided on testing the value of the note above quoted, being unprovided with reliable matter, and quite unwilling to compel soldiers to submit to the introduction of a virus of which I could procure no history.

Accordingly, with every possible caution under the circumstances, and strictly conforming to the recommendations contained in the note adverted to, I engrafted one soldier after another with the modified lymph, until thirty-odd had swelled the list of my experiments. Of thirty-five persons thus successfully inoculated, three only exhibited a few additional pocks, in no case more than six, in addition to the seat of puncture.

No perceptible difference could be detected, whether in the course of the pock or in its effects on the system at large, when contrasted with the phenomena attendant on simple, uncomplicated vaccine. None of these cases had been previously vaccinated. The wards of the Ocmulgee Hospital, at the time of these experiments, were more than usually crowded—the result of an order transferring the greater number of hospitals in this department to the Carolinas. It was thus rendered impossible to prevent the inoculated patients from freely intermingling with the rest of the inmates of the hospital, many of whom, even at this late day, had never been vaccinated ; still, in the face of these facts, not even a single case of varioloid occurred within its walls during or after the suspension of this practice. Previously, from time to time, an occasional case had offered.

The accidental information of which I became possessed at this juncture, at the hands of a friend in the profession, Dr. S. E. Chaillé, Surgeon in charge of Ocmulgee Hospital, to wit: that the laws of the State of Georgia were specially severe concerning any other procedure than vaccination, as a security against small-pox, influenced me to discontinue the practice, which I had so far kept to myself. A further inducement to avoid all possible conflict with the State laws consisted in the fact of my now being in possession of a moderate supply of good material, secured from healthy children, whom I had recently vaccinated.

My observations on the subject, however, did not close here. A large small-pox encampment had been established on the outskirts of Vineville, about three miles distant from Macon. I use the term "encampment" purposely, for the patients were all treated in tents. It was under the direction of Assistant Surgeon L. Carter, at that time in the service of the Confederacy, and was an appendage to the Floyd House Hospital, Surgeon Dabney Herndon in charge.

I omitted to state a very important fact when recording the results of my own cases, which defect in this history I shall correct at once. I had neglected to mention that those soldiers whose arms had perfectly cicatrized, permitted me, with some persuasion, to test, by a second inoculation, the degree of immunity so conferred, and this time with pure unmodified small-pox lymph. The material used on them I intentionally secured from a case of confluent variola, and introduced the same in great abundance into numerous incisions. All that remains to be added is, that the second inoculation with confluent variola lymph had no effect in the three cases thus experimented on.

At the encampment above mentioned, this modified inoculation was in general use, vaccination being entirely ignored. It was practiced, I believe, previous to the date of my own experiments, though unknown to me at that time. To this station all cases of variola or varioloid occurring at any of the Post Hospitals were immediately sent for treatment. As the result of too much precaution, it frequently happened that soldiers were sent out to this place because their symptoms were suspicious, and associated with the fact that they had never been vaccinated, or had never taken, when, in truth, they were not laboring under the supposed disease. Such cases, after a systematic exposure of the kind, were constrained to remain here till they were armed against the disease by measures looking to immunity, or had successfully passed through its several stages and sufficiently recovered therefrom.

The immunity never failed to follow successfully modified inoculation, as far as could be ascertained. In no instance, after the pock had attained to maturity, have I ever seen varioloid ensue. I cannot speak so favorably of vaccination, for I have seen small-pox itself occur again and again under exactly such circumstances, and in spite of the unquestionable purity of the virus used. Hundreds of cases at this encampment were subjected to this modified inoculation, yet not a case found it necessary to take to bed. Their identity in every sense with vaccine was as noticeable and as thorough as could be.

The people of the neighborhood and the children, on applying to be vaccinated, were likewise inoculated, and the same favorable results were obtained. They visited and intermixed with each other without any restrictions on their freedom ; yet, in this locality variola and varioloid were scarcely known. The few cases that did occur were distinctly traceable to exposure to small-pox.

It would seem that this immense focus of contagion here centralized would have invited numerous attacks of variola or varioloid among the dwellers of this immediate vicinage ; but the converse was the case, whilst in Macon these diseases were alarmingly prevalent. As far as could be determined by investigation, the few seized by either of the affections were confined exclusively among the non-vaccinated and the vaccinated—not a case occurring among such as had been protected by modified inoculation. The scabs derived from such inoculation in healthy children were used with like happy results.

It is to be hoped Dr. Carter will find an early occasion to make known his very extended experience in the premises.

Dr. C. B. Gamble, of Florida, our estimable and respected Surgeon of the Post, on my apprising him of such procedure, in contravention of the State laws on the subject, was about to take instant means for its suppression. I entreated of him a little delay that he might inquire into its results, at the same time expressing how favorably I viewed its workings. I saw Dr. Gamble some two weeks later, and, in lieu of discountenancing and frowning down its further practice, he had become one of its advocates, in so far as to send scabs procured as above stated from healthy children to his friends and acquaintances writing for vaccine. These, he afterwards informed me, had behaved admirably in every case.

In the *Révue Médico-Chirurgicale*, No. 13, published by Dr. A. Martin Lauzer, for 1865, may be found, on page 543, the following, which I translate into English:

" *Inoculation of Variola-virus, Diluted by Admixture with Cream.*—M. Lanfranchi, Sanitary Officer at Gutera (Canton of Licavo, District of Ajaccio), and Physician to the Canton, had to contend in 1854 with an epidemic of confluent variola, which carried off more than four hundred victims from the nine parishes of the canton, among whom children were to be found wearing manifest traces of previous vaccination. The variolous inoculation attempted in some of the parishes did not lessen the intensity of the malady. M. Lanfranchi conceived the idea of testing on his son a mixture of variolous matter and cream from cow's milk, after the ensuing method: Having made a small incision about the middle of the anterior aspect of the fore-arm, he deposited virus, just secured from a small-pox vesicle, into the same; and then taking a small quantity of cream from cow's milk, on the point of the same instrument, he introduced it into the same incision, spreading it to mix with the virus; then covering up the slight wound with a light coating of the same cream, which required to dry before permitting readjustment of the child's dress.

" The result of this operation was not long waited on; a slight irritation followed soon after the inoculation of the modified variolous virus. It formed a small scab which fell off or became indolent on the third or fourth day; when on the sixteenth or seventeeth day a well pronounced inflammation manifested itself at the incision; fever was kindled, and variolous pimples exhibited themselves in diverse places on the body, to the number of seven or eight.

" The fever was mild in character, and the child recovered without having evinced the least restlessness. Six other children of the parish, not yet seized by the epidemic, were subjected to the same mode of inoculation, and like the son of M. Lanfranchi had a benign type of varioloid. Last summer a fresh epidemic of variola occurred in one parish, and successively invaded the entire canton. As in 1854, this epidemic seized on the vaccinated alike, as on the unvaccinated children. The small-pox was confluent, claiming many victims, and disfiguring those who did not succumb under its violent usage. Now, in this instance, M. Lanfranchi practiced, as he practices still at this moment, his inoculation of variola-cream, and the children whom he has thus protected enumerate above a hundred. With all, the effects were so exceedingly mild that a large number did not take to bed, and in no case did such inoculation present more than twenty pocks. It is difficult in families to put to the test the preservative virtue of such inoculation, by after inoculating with the pure variola lymph; but what M. Lanfranchi could not prove on the children of his clients he verified on his own son, at the suggestion of M. Cauro. With virus taken from a variolous vesicle, without admixture with cream, he inoculated his child ten years after the modified inoculation of 1854, and the result was void. The subject was perfectly refractory against the second inoculation."—*Journal de Médicine Practique.*

M. Lanfranchi's method is somewhat different from that pursued at Macon. His cases were something severer, and may be due to the difference in his plan of inoculating. In his severest cases, however, twenty pocks were the largest number that ever occurred in his practice. There are few persons, it occurs to me, who would not accept immunity from the disease at this cost. He found this procedure infinitely superior to vaccination.

Let us briefly, in conclusion, draw what may be considered fair inferences from the foregoing facts:

1. We hope to have demonstrated that its operation is equally benign with vaccination ; in fact, that their action is identical, and resting this statement on an experience of fully five hundred cases.

2. That the disease so engrafted, like vaccinia, is not communicable by contact.

3. That the immunity it confers would seem to be more lasting, and otherwise superior to that responding to vaccination.

4. That simultaneously with the occurrence of small-pox, we are supplied with a seemingly all-potent means for its arrestation.—*New Orleans Medical and Surgical Journal, July*, 1866.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

TRIGEMINAL NEURALGIA RELIEVED BY LIGATION OF THE COMMON CAROTID ARTERY AND NEURECTOMY.

Dr. Ferdinand H. Gross publishes in the *American Journal of the Medical Sciences* of April, 1883, a condensed clinical history, extending over nine years, of a case of this disease, with an account of the various remedial measures undertaken for its relief. The result of the operative treatment may be summarized as follows:

1. The effect of the ligation of the common carotid artery was immediate relief in the domain of the first and second divisions of the trigeminal nerve; the period of immunity from pain in the second division being fully two years, while in the first division the pain has never returned, the relief there being probably permanent, and can only be accredited to the carotid ligation. The effect of this operation upon the third division of the nerve was too transient to count for anything.

It should be added that no impairment of intellect has followed the ligation. After the lapse of nearly two years and a-half no disturbance of brain functions has been noticed either by Dr. Gross or the patient, or by any of those who are habitually associated with him.

2. The first neurectomy of the inferior dental nerve, eight months later, resulted in a period of relief from the neuralgia of about one year and three months—to remain within safe limits.

3. The last two operations, viz.: the neurectomy of the superior maxillary and the repetition of the operation upon the inferior dental nerve, were performed within two months of each other, September 14th and November 11th, respectively, and may be considered together. The result thus far is entirely satisfactory, the patient being now, three months later, completely relieved of the neuralgia.

SYPHILIS OF THE EYE AND ITS APPENDAGES.

Dr. Leartus Conner publishes (*ibid.*) an interesting paper on this subject, in which the following points are emphasized :

1. The study of specific ocular diseases is helpful in the diagnosis of certain obscure cases otherwise difficult to make out satisfactorily. Thus, a specific iritis will at once set at rest all doubts as to the origin of a series of indefinite general symptoms which have annoyed the patient and puzzled the doctor.
2. The careful attention to these cases is the only method by which, in many cases, the eyes can be saved intact during the course of the disease. Surely, when such attention can save eyesight in some cases, it is criminal not to give it to every case.
3. The study of these lesions calls for the most searching examination of the entire organism. Especially is this true of such affections as cannot be distinguished from like diseases of the eye due to far different causes. Thus, if the early treatment of a dacrocystitis be simply local, it is sure to fail if it be of specific origin. Hence, the only chance to avoid failure lies in such an examination as will reveal its specific nature. The same remark applies with even greater force to many other specific diseases of the eye, as will be gathered from his brief review. From this it follows that, in every eye case, the only safe practice is to constantly entertain the possibility of specific infection.
4. The treatment of every specific case calls for constant watchfulness of the eyes with the ophthalmoscope, otherwise lesions impossible to repair may be established before the practitioner is aware of their existence or of any danger. Perhaps in no class of troubles is it more apparent that the general and special knowledge of morbid phenomena need to be constantly combined in one person. The special practitioner needs to be a general one, and the general practitioner a special one.

ON CERTAIN ABSCESSES OF THE NECK WHICH MAY CAUSE SUDDEN DEATH, AND HOW TO TREAT THEM WITH SUCCESS.

Dr. John A. Liddell, in a very instructive article on this subject (*ibid.*), points out that sudden death may occur from deep-seated abscesses of the neck, or the continuance of life may be greatly endangered, much oftener than is generally supposed, and that these abscesses in the neck are more frequently attended with hemorrhages due to the opening of important bloodvessels by ulceration or erosion, and by *ramollisement* consequent upon the disorders themselves, than abscesses in the other surgical regions. The superior liability of cervical abscesses to the spontaneous occurrence of dangerous hemorrhages arises in part from the greater number and importance of the cervical bloodvessels ; but more particularly from the inanition and exhaustion, or low state of the constitutional powers, and consequent feebleness of the reparative forces, which rapidly result from most of the deep abscesses of the neck, or rather from the inability to swallow enough food to support life, and from the powerlessness to get any refreshing sleep, or even repose, with which these abscesses are oftentimes attended. The septic or toxæmic influence of the fetid secretions and exudations which present themselves in the oral and faucial cavities, in many instances, also aids materially to still further depress the patient, and weaken the reparative processes of his system. These deep-seated abscesses of the neck, when allowed to run their own course, do not exhibit any tendency to a spontaneous cure ; but, on the contrary, they always tend to destroy life by burrowing or spreading, etc.; and Dr. Lidell shows that the earlier they are laid open and evacuated the better for both patient and surgeon.

As soon as fluctuation is discerned, the abscess-cavity should, without delay, be freely laid open, the coagula turned out, the bleeding point or source of the hemorrhage brought distinctly into view, and the delinquent vessel itself should be ligatured on each side of the aperture in its walls. But should the ligatures cut through, the actual cautery must be applied to the bleeding point, the primitive carotid artery should be firmly compressed against the cervical vertebræ by the surgeon's thumb or fingers applied on the anterior part of the corresponding side of the neck, between the larynx or trachea and the inner border of the sternocleido-mastoid muscle, with force enough to press the artery backward and inward against these vertebræ, and flatten it thereon. Should this procedure fail, it will be advisable, especially in cases where the bleeding proceeds from tonsillary abscesses, to ligature at once the primitive carotid artery.

A CONTRIBUTION TO THE GENERAL KNOWLEDGE CONCERNING THE PRURIGO PAPULE.

Although there has been much written about, and many descriptions made of, the histology of the prurigo papule, the opinions of authors have not always agreed; and it was with the idea of settling as far as possible the disputed points and differences that Dr. Robert B. Morison, of Baltimore, undertook the following investigations in Prof. Chiari's pathological institute at Prague, on material kindly furnished by Prof. Pick, which was taken intra vitam at various stages of the disease under the latter's personal supervision.

He publishes his results in the October number of *The American Journal of the Medical Sciences* for the current year. Dr. Morison draws rather different conclusions regarding the formation of the papules, when considering them in their earliest and latest stages.

He considers that the papule is formed by an infiltration beginning around the upper layer of vessels of the corium, and that this infiltration extending upwards surrounds the papillary vessels, enlarges the papillæ, thus pushing up the epidermis, which becomes thickened at an early stage above them, and at last, penetrating it, forms within its layers a small vesicle containing serum, blood and lymph-cells. The signs of infiltration surrounding the hair-sheaths and sweat-ducts are secondary, and they play no especial part in the process. Their presence in the papule is accidental, and it is certain that the primary changes in the skin are not in connection with them.

The color of the papule at first does not differ from the rest of the surrounding skin, on account of the depth of the slight infiltration with which it begins. For the same reason, it is at first only felt, and not seen, as the infiltration has not extended high enough to push up the epidermis perceptibly, but is sufficiently great to give a feeling of knot-like hardness underneath it. He considers the whole process due to an inflammation, and that all the signs of chronic dermatitis follow regularly, according to the length and duration of the disease, and the amount of scratching which the itching, as a secondary symptom, causes.

Clinically, the formation of the papule coincides with this description, for there is always noticed in the beginning of the disease, after careful investigation of the skin, a slight roughness, and a sensation as of running the hand or finger over small knots, covered with an intervening membrane. At this stage there is no itching. In fact, the itching does not begin until the infiltration has so far advanced that the papules are more distinct. If before this occurs the treatment is begun, no itching appears. This proves, as Kaposi says, that all the symptoms of the disease go hand-in-hand with the increase or decrease of the papules.

EXCISIONS OF THE TARSUS, WITH A REPORT OF TWO SUCCESSFUL REMOVALS OF THE ENTIRE TARSUS.

In cases of tarsal disease, amputation through the leg or at the ankle has been and still is regarded by surgeons generally as much to be preferred to any more conservative treatment. Such operation, it is claimed, is less likely to be followed by death from septic infection, or as the result of protracted and profuse suppuration, and leaves the patient in a better local condition, more able by the aid of an artificial limb to move about and earn a livelihood. But there have been reported from time to time, especially during the last twenty years, cases of extensive formal excisions, the history and end-results of which compel a reconsideration of the alleged dangers and disadvantages attending an attempt to remove the diseased and preserve the healthy part of the foot. Dr. P. S. CONNER, of Cincinnati, in the October issue of *The American Journal of the Medical Sciences* for the current year, has undertaken this task, and has collated all the reported cases.

The three questions he considers are:

1. Is excision a safe operation, or at least attended with no greater mortality than the alternative amputation?

2. Is it likely to put an end to the disease, or is recurrence of the morbid process in the unremoved bones of the foot to be expected?

3. Will the patient, after recovery from the operation, be left with a serviceable limb?

As respects the preservation of life, he finds that excision of the whole tarsus, or of one of its great divisions, is not much, if any, more dangerous than an ankle-joint amputation, and not very much more so than a middle tarsal operation. It has, moreover, the advantage of permitting, if necessary, of the subsequent removal of the foot, which, in the cases tabulated, was performed seven times with but a single resulting death.

That the disease is very unlikely to reappear is shown by the fact, that in only three cases did such recurrence take place. This fact, however, is not so strange as it may at first seem, as it is in direct accordance with the recognized law that the more thorough the removal of diseased bone the less will be the likelihood of a relighting up of the bone inflammation.

By far the most important question of the three proposed is that which has reference to the functional value of the saved foot. He holds that its usefulness is likely to be sufficiently great to warrant the taking of a somewhat increased risk of life, and in subjecting the patient to the necessarily much greater duration of the period of healing—a period that, though it may be as short as four weeks, may occupy more than twice as many months or even half as many years.

Of the 108 operations tabulated by Dr. Conner, 10.18 per cent. resulted fatally. Of the 95 cases, the end-results of which are known, 10.53 per. cent. were failures; 6.32 per cent. left the subjects of them able to walk with a cane or crutch; in 24.21 per cent. there was, after complete consolidation had taken place, no pain nor tenderness, little or no limp, and the individuals were not prevented by the condition of the foot from earning a livelihood; and in 47.37 per cent. the result was so good that the gait was not a bad one, the support of the body was firm, and locomotion was so easy and perfect that the individuals could, without special fatigue, walk long distances, even twelve to fifteen miles a day.

ON THE RENAL CIRCULATION DURING FEVER.

Dr. Walter Mendelson, of New York, in an elaborate experimental research undertaken at the Pathological Institute of the University of Leipzig, the results of which he publishes in the October, 1883, number of *The American Journal of the Medical Sciences,* endeavors to determine by experimental methods the actual condition of the circulation in the kidney during fever. He finds:

1. That in dogs with fever the kidney undergoes a diminution in its bulk.
2. That diminution is due to a contraction of the walls of the blood-vessels; and,
3. That it is constant and progressive, being proportionate to the intensity of the fever.
4. That it is in all probability the result of a nervous stimulus, originating in the central (cerebral) nervous system from the irritation of abnormally hot blood circulating there.

From the intimate relations existing between the arterial pressure and the secretion of the urine, it will at once be evident that many of the changes occurring in the latter during fever may be readily explained by considering the above-named facts. Thus the *decrease in the amount of urine* secreted by fever patients, which has heretofore been ascribed to the increased loss of water through the lungs and skin (and which may amount to one-half, or even a third, of that normally secreted) becomes all the more explicable when the marked contraction is considered, which he here shows that the renal vessels undergo during fever. For in this case it is immaterial whether we accept the theory of Ludwig and his pupils, that the amount of urine secreted is dependent on the height of the arterial pressure in the kidney, or that of Heidenhain, that it is due to the rapidity of the blood-current in the renal vessels. In either case the great contraction of the kidneys' vessels would produce both a diminished blood-pressure and a retarded current within the organ, and hence a lessened secretion of urine.

The occurrence of *albuminuria,* such a constant symptom in nearly all high fevers, becomes readily understood when we bear in mind the extreme anæmia which he finds affects the kindney during a hyperpyrexia. For nearly all authorities are now agreed that albuminuria is due to the glomerulal epithelium, in consequence of being insufficiently nourished with arterial blood, losing its function of retaining within the vessels the albuminous portions of the blood plasma. The extreme sensitiveness of the renal epithelium generally to anæmia, whether partial or complete, has been shown by many observers, and it is not surprising, therefore, that, in consequence of the prolonged marked anæmia in the kidneys of feverish individuals, the epithelium should be so profoundly affected as to seriously impair its function, and allow it to become permeable to albumen.

ORIGINAL TRANSLATIONS.

THE PARASITIC NATURE OF MARSH MIASM: Read before the Société Médicale des Hôpitaux, Session of Friday, April 28, 1883. By M. A. LAVERAU, Professeur Agrégé au Val-de-Grâce. Translated from *L' Union Médicale* of June 12, 1883, by H. McS. GAMBLE, M.D., Moorefield, W. Va.

I have had the honor of sending to the Société Médicale des Hopitaux, in the month of December, 1880, a paper in which I described some elements of a parasitic nature which I had met with in the blood of patients attacked with marsh miasm. Since that time I have not ceased to study these parasitic elements, and I ask your permission to lay before you the results which I have reached. A word first as to the manner in which I have been led to seek these elements in the blood of patients suffering from the effects of marsh miasm.

Upon my arrival in Algeria in 1878, I at the start proposed to myself as an object the study of the pathological anatomy of marsh fever, and no one, I think, will contradict me when I say that at that time the question was still very obscure. Doubtless, the principal changes which are met with at the autopsy of subjects dead from miasmatic disease, acute or chronic, had been described, but we were ignorant as to the relation of these changes to each other; we asked ourselves what was the nature of the lesions of the spleen; some of the most competent observers thought that it would be the study of the nervous system which would yield up the secret of paludal fevers; it was known, since Frerichs, that the blood of persons poisoned by marsh miasm contained pigment, but only a very secondary importance was attributed to this alteration of the blood.

The histological examination of the viscera of subjects dead of pernicious fever, or of malarial cachexia, soon showed me that the sole constant lesion of paludal disease consisted in the presence of pigmented elements in the blood. In subjects dead of pernicious fever these pigmented elements are found in all the organs, in all the tissues which are supplied with bloodvessels, and they exist in such great quantity in the liver and in the spleen that they give to these viscera a brownish tint absolutely characteristic.

The grey substance of the brain and of the spinal cord often assumes also a brownish tint, which is explained by the presence in the capillaries of pigmented elements in very great number.

Upon a histological section of the brain of an individual dead of comatose pernicious fever are distinguished in all the capillary vessels a great number of pigmented granules, round, of the same size, which often form a very regular piqueté.

In malarial cachexia, the pigmented elements are but seldom met with, except in the small vessels of the spleen and liver; besides, in these organs the lesions of chronic inflammation are observed.

What was the nature of these pigmented elements? What was their origin? Was it necessary to accept the classic opinion which made of the paludal pigment a product of the alteration of the normal elements of the blood? Could we admit that the fevers which are developed under the influence of marsh miasm have the property of decomposing the blood, of determining the precipitation of insoluble granules of pigment, while nothing like it is observed in other diseases, such as typhoid fever, scarlet fever, articular rheumatism, which give rise, however, to thermic elevations at least as high as malaria does, and which are accompanied also by as rapid destruction of the blood elements ?

Evidently the old theory of the formation of the pigment in paludal fever was not satisfactory, and this is how I was led to inquire how the pigmented elements were produced in the blood.

The histological study of the blood taken from patients attacked with paludal fever was not slow in showing me that, by the side of the melaniferous leucocytes and of the smooth pigmented granules whose existence had been recognized since the time of Frerichs, there were other pigmented elements of whose parasitic nature there seemed to be no doubt.

These pigmented elements, which are met with only in individuals attacked with paludal disease, present themselves under the following aspects :

Body No. 1.—Cylindrical elements, tapering at their extremities, almost always incurved in the form of a crescent. The length of these bodies is from 8 to 9 thousandths of a millimetre, their width three thousandths of a millimetre, on an average ; the outlines are indicated by a very fine line ; the body is transparent, colorless, except towards the middle, where there exists a dark spot composed of pigmentary granulations ; there is often observed on the side of the concavity a very fine line which seems to connect the extremities of the crescent. These elements do not seem to be endowed with motion ; they sometimes have an oval shape ; the pigmented granules are then disposed in a more or less regular circle ; when the oval is very slightly elongated, these bodies approach the following:

Bodies No. 2.—Spherical elements, transparent, of variable diameter, enclosing pigmented granules identical with those which exist in bodies No. 1, and upon the cadaver. The largest of these elements have a diameter a little above that of the blood elements, the smallest measuring only from one to two thousandths of a millimetre in diameter, and containing sometimes only one or two grains of pigment. Those of these bodies which approach in volume the blood corpuscles present a very variable aspect according as they are in a state of repose or of motion.

In the state of rest, the pigmented grains often form quite a regular circle ; the body is colorless, transparent, limited by a fine line.

In the state of motion, the pigmented grains are agitated in a very lively manner in the interior of these bodies, and, consequently, they present a very variable disposition ; moreover, we often see very fine filaments which are attached to the border of these spherical bodies, and which are animated with very lively movements in every direction. The length of these mobile filaments may be estimated at three or four times the diameter of a blood corpuscle ; their number is quite variable. I have often counted three or four around the same spherical body, to which they communicated an oscillatory motion, at the same time that they displaced in every direction the neighboring blood corpuscles. In the state of rest, the filaments are not visible because of their perfect transparency. The free extremity of the filament is slightly distended.

After a certain length of time the mobile filaments are detached from the pigmented spherical bodies; they become free and continue to move in the midst of the blood corpuscles. The bodies No. 2 of small volume are sometimes free, sometimes adherent to the blood globules ; the blood globule appears to become hollowed in order to receive these bodies; it becomes transparent at this point, which has caused the belief that the bodies No. 2 were nothing else than the blood globules transformed and enclosing pigmented granules.

The bodies No. 2, independently of the very lively movements of the pigmented granules and of the mobile filaments, present some slow movements, and some changes of form which completely recall the amœboid movements. These movements are observed at the ordinary temperature, without the necessity of making use of the warm plate.

In the preparations of blood fixed by osmic acid, colored by picro-carmine and mounted in glycerine, the bodies No. 2 do not show a nucleus colored a lively rose, as the leucocytes do, but a double contour is distinguished. Under the same conditions the body No. 1 shows likewise a double contour.

Bodies No. 3.—Spherical or irregularly formed elements, transparent or finely granular, from 8 to 10 thousandths of a millimetre in diameter, containing pigmented granules which are sometimes disposed quite regularly at the periphery, sometimes are agglomerated it may be at the centre, it may be at the the periphery. These bodies are motionless.

If we observe a body No. 2, containing mobile, pigmented granules, and furnished with mobile filaments, at the moment when the movements cease (under favorable conditions these movements may persist during several hours), we see that this body then assumes the aspect above described, whence we may conclude that the bodies No. 3 are only the cadaveric forms of the bodies No. 2.

The bodies No. 3 have no nucleus, and are colored with difficulty by carmine, which enables us to distinguish them from the melaniferous leucocytes, which are often met with also in the blood of patients attacked with paludal fever.

There are found besides, in the blood of these patients, free pigmented granules which appear to proceed from the destruction of the bodies No. 3; the leucocytes take possession quite rapidly of these free granules, as they do of all minutely-divided matter introduced into the blood.

The process of the examination of the blood is very simple. It suffices to prick the finger of the patient, and to make a preparation of pure blood; it is well to surround it with parafine in order to prevent drying.

The pigmented elements are often scarce in the blood, which renders the search for them laborious, if not difficult. Generally, the movements of the filaments cease at the moment the examination is commenced, probably under the influence of the cooling process, and often they reappear only 20 or 30 minutes after the preparation has been made. This is one of the circumstances which explain why the mobile filaments have up to the present time escaped the attention of observers.

A magnifying power from 400 to 500 diameters suffices to show very clearly all the details of bodies No. 1, No. 2 and No. 3. My researches, commenced at Constantine in the month of October, 1880, have been continued without interruption up to the month of March, 1882. They embrace then a period of eighteen consecutive months, during which I have been able to observe all the forms of paludal disease.

I have collected the histories of 228 patients attacked with malarial disease, and in these 228 patients I have observed 184 times the presence of the pigmented elements described above. The number of negative results, which is 44 to 228, appears quite high at first sight, but the majority of the negative observations were collected at the beginning of these studies, when I did not know exactly under what conditions it was necessary to place myself in order to find the pigmented elements of the blood. The majority of the patients who have supplied these negative observations had taken sulphate of quinine at the time at which I proceeded to make the examination of the blood, and I have recognized since the fact that quinine causes the pigmented elements rapidly to disappear ; others were suffering from malarial cachexia, but had not had any paroxysm of fever for a long time, and I have likewise observed that under these conditions the pigmented elements are only rarely found in the blood derived from a prick in the finger. Pathological anatomy demonstrates that in malarial cachexia the pigmented elements are found only in the small vessels of the spleen and of the liver.

I have noticed as negative facts those in which I have only observed the presence of melaniferous leucocytes ; these elements are, however, very characteristic, since the pigment with which they are charged in all probability proceeds from the bodies No. 1, No. 2 and No. 3.

My researches have borne upon all the classic forms of paludal disease—intermittent fever in the first attack or after a relapse, of quotidian, tertian or quartan type; continued paludal fever, slight or grave ; paludal fevers complicated with pernicious symptoms ; malarial cachexia.

It is a little before the febrile paroxysm and during these paroxysms that one has the best chance of meeting with the pigmented elements in their most characteristic forms.

Forty-eight times the examination of the blood has been made a few hours before a paroxysm of fever, and in every case the existence of the pigmented elements has been observed.

Ninety-five times the examination of the blood has been made during the febrile paroxysm ; twelve times only has the examination been negative. Even in these negative cases we often find well marked the existence of melaniferous leucocytes.

Eighty-two times the examination of the blood has been made a few hours after a paroxysm, eleven times it has been negative.

The presence of bodies No. 2 containing mobile pigmented granules or supplied with mobile filaments, and that of free mobile filaments, has been very often noticed in the examinations made a little before the paroxysm of fever or at the beginning of the paroxysm ; after the paroxysm it is rarer to observe the existence of these elements, and we seldom find anything more than some motionless No. 2 bodies, No. 3, or melaniferous leucocytes, especially if the patient has taken sulphate of quinine. Bodies No. 1 are often met with in the interval between the paroxysms, and they sometimes persist quite a long time in the blood, even when the patient has been subjected to the quinine treatment.

The patients whom I have examined had taken the fever at the most varied points in Algeria or in Tunis, a few had contracted the fever in France or in Corsica, and had recently arrived in Algeria.

One of my colleagues, Dr. Richard, has succeeded in finding at Philipperille (province of Constantine), in the blood of a large number of patients attacked with paludal fever, all the elements which I have described, and I have been able to assure myself that the pigmented elements found in the blood of the patients at Philipperille were exactly the same as those observed at Constantine. I have sought for the pigmented elements described above in the blood of a great many patients afflicted with diseases foreign to marsh miasm ; this examination has always been negative.

The existence, in the blood of patients under the influence of paludal disease, of the pigmented elements which I have described under the names of bodies No. 1, No. 2 and No. 3, is to-day beyond doubt; the nature and the pathological role of these elements do not seem to me to be any longer doubtful, although several points relative to the history of these bodies are still very obscure.

When one has observed the existence of such lively movements of the pigmented granules in the interior of bodies No. 2, and those still more remarkable of the mobile filaments, it seems to me impossible to preserve the least doubt as to the animated nature of these bodies. It is not admissible that the very active, very varied and very complicated movements of the mobile filaments could be confounded with the amœboid movements of the leucocytes, slow movements and very difficult to observe in the leucocytes of man when the warm stage is not made use of, and I am astonished that some observers continue to offer this objection. It suffices to cast the eyes upon figure E to be convinced that these transparent filaments, of the same magnitude, of the same length, slightly inflated at their free extremity, in no wise resemble the amœboid prolongations of the leucocytes, and this conviction is complete, absolute, when these filaments are seen in motion. Is not the simple fact that the mobile filaments are detached at a given moment from the bodies No. 2, and continue to move with vivacity in the midst of the blood globules, an evident proof of the animated nature of those bodies? I have shown the bodies No. 2 furnished with morbid filaments to more than twenty confrères, and the most sceptical have declared to me that they retained no doubts as to the animated nature of these bodies; therein is a very clear and very evident result of observation.

The natural history of these parasites of the blood presents, to tell the truth, more than one obscure point yet. I suppose that the bodies Nos. 1 and 2 are kinds of cysts containing the parasitic elements in the state of ova or of embryos. When the embryos are developed they become mobile, then we have the bodies No. 2 containing mobile pigmented granules; when the animalcules have reached the perfect state, the adult state, they assume the aspect of mobile filaments which, after having struggled some time to disengage themselves from the cyst, end by becoming free in the blood. We find in the history of generation among the protozoa analogous examples of beings which live in a state of encystment during the embryonic period, and which in the adult state are disengaged from their cyst and become free.

How are the cysts constituted which contain the parasitic elements in the state of ova or embryos? Is it a question of special sacs, independent of the normal elements of the blood? Or is it the blood globules that constitute the bodies No. 1 and No. 2? This second hypothesis has recently been defended by Dr. Richard (communication à l'Académie des Sciences, 20 Février, 1882). For some time it appeared to me quite reasonable, so much so that I had announced it in one of my first communications to the Academy of Medicine; I have had to abandon it after having observed the following facts:

1. The bodies No. 2 which contain mobile pigmented granules, often show very distinct amœboid movements which are never seen in the blood globules.

2. By the side of bodies No. 2, which have very nearly the diameter of the blood globules, there exist others, evidently of the same nature, which have scarcely one to two thousandths of a millimetre of diameter, and which consequently are much smaller than the smallest

blood globules. Some of these free bodies, isolated or agglomerated, have been represented.

3. In the preparations of blood fixed by osmic acid, colored by picrocarmine and mounted in glycerine, we observe that bodies No. 1 and No. 2 have an envelope with a double contour; it is very difficult to understand how a blood globule can be transformed into a cyst supplied with a wall with a double contour.

It is very true that we often find, in the blood of patients attacked with paludal fever, blood globules which appear hollowed into cavities containing pigmented granules; but it is very probable that this appearance is due to the fact that bodies No. 2 are often attached to the blood globules. We sometimes find two, three or four bodies No. 2 of small volume upon a single blood globule; the blood globule is excavated at the level of these bodies and becomes transparent; in proportion as the bodies No. 2 increase, the blood globule to which they were attached is more and more consumed, and finally disappears. The existence in the blood of bodies No. 2 of medium and of small volume, free and independent of the blood globules, shows that bodies No. 2 are not simply blood globules transformed by the presence of the parasite.

I come now to the pathological role of the above-described parasitic elements. The following propositions, which all rest upon a large number of cases, appear to me to establish in an evident manner the relation of cause to effect which exists between these parasites of the blood and the symptoms of paludal fevers.

1. The parasitic elements always exist in the blood of patients with paludal fevers; if the examination of the blood made during life does not permit us to observe the presence of these elements in all cases, pathological anatomy demonstrates that they are always found at least in the capillaries of the spleen.

2. The abundance of the parasitic elements in the blood is in direct relation with the gravity of the symptoms; in the individuals who succumb to some complication intercurrent in the course of a simple intermittent fever, the pigmented elements are met with only in small numbers, and in the liver and spleen alone; on the contrary, in subjects dead of pernicious fever, the pigmented elements exist in very great numbers in all the organs, in all the vascular tissues.

3. In patients attacked with intermittent fever, it is at the beginning of the paroxysm that we find the parasitic elements in the blood in greatest number, and under the most characteristic forms, bodies No. 2 containing mobile pigmented granules, mobile filaments. When the microscope reveals in the blood of a patient the presence of these latter elements, one can predict almost to a certainty that that patient is going to have a paroxysm of fever, even when there exists as yet no apparent morbid disturbance, and the temperature is normal.

4. The parasitic elements which I have described under the names of bodies No. 1, No. 2 and No. 3, never exist in the blood of patients attacked with diseases foreign to malaria.

5. The parasitic elements disappear rapidly from the blood when those suffering from paludal fever are subjected to quinine treatment. One can satisfy himself directly that, upon contact with even a very feeble solution of quinine, the movements of the mobile filaments cease, and the bodies No. 2 assume their cadaveric form. Sulphate of quinine, which rapidly kills animalcules arrived at maturity, has probably much less influence upon the germs of these animalcules, whence the frequency of relapses.

It would be very desirable, without contradiction, to add to these proofs that furnished by the inoculation of the parasites; unfortunately the conditions under which we ought to be placed for this inoculation are difficult to fulfil. After having determined the existence of the parasitic elements in the blood of a patient attacked with paludal fever, it would be necessary to take some blood from this patient and inject it immediately into the veins of a healthy person; but to expose a vein, to place therein a canule, and to inject blood through this canule, all this constitutes a very serious operation of which, for my part, I would not like to take the responsibility.

We might, it is true, perform this experiment upon animals, but it is not proven that animals are subject to the diseases arising from marsh miasm. I have injected into the veins of rabbits blood containing parasitic elements, and I have obtained only negative results. It is known that parasitic diseases are always peculiar to a species or to several species nearly related; the negative result of these experiments is by no means surprising.

The parasitic elements which are found in the blood of patients suffering from paludal disease appear to me to be characteristic enough, from a morphological point of view, to allow us to dispense with the counter-proof furnished by inoculation—inoculation which ought to be in kind a veritable transfusion of blood. Does not the existence of acari under the epidermis, of trichinæ in the muscles, of filaria in the blood, suffice to demonstrate the parasitic nature of the itch, of trichinosis and of hæmato-chyluria? The parasitic elements which I have found in the blood of patients with paludal fever are as characteristic of malaria as the acarus is of the itch, the trichinæ of trichinosis, the filaria of the disease caused by its presence in the blood.

Under what form and by what route are the parasites of paludal disease introduced into the economy? The researches which I have undertaken in order to resolve these questions have not given me as yet results sufficiently certain to enable me to draw any fixed conclusions. It would be easy for me, gentlemen, to show you that the existence of parasites in the blood of patients in paludal disease agrees very well with what we know of the conditions under which this disease is developed—of its symptoms, of its progress, of its curability by the sulphate of quinine—but I should fear being drawn on to too great length, and wearying your patience. I will content myself with reminding you that at all times the parasitic theory of paludal disease has found ardent supporters, and that numerous attempts have been made to discover the parasite in the air, in the water, or in the soil of marshy localities. I hope I have shown you in the course of this work that the parasitic theory of paludal disease now rests upon precise facts, upon a solid base.

ON THE USE OF HOT AND COLD WATER IN GYNECOLOGY.

Translated from *l'Union Médicale* of July 5, 1883, by H. McS. GAMBLE, M.D., MOOREFIELD, W. VA.

Water employed externally as a therapeutic agent acts in two ways, by its contact and by its temperature. The contact may be transient or prolonged; it may be simple, when, for example, one applies upon a portion of the body a compress saturated with water, or violent as in the douche. The temperature may vary from 0° to 100°. From 0° to 50° water acts by modifying the vaso-motor phenomena; elevated to a higher degree, it disorganizes the tissues and produces the phenomena of a burn. Upon whatever portion of the body the water may be applied, we observe these same therapeutic properties, and it is not otherwise if we enter upon the domain of gynecology. We wish to speak only of the local applications of this liquid, of local hydrotherapy. The gynecologists employ water as an emollient by aid of compresses saturated with it, which are placed upon the hypogastrium, but the chief use of it consists in vaginal and rectal injections.

Injections made with a certain degree of violence upon the neck of the uterus have been abandoned, because of the dangers which accompany them; we are contented with introducing the water gently, and it is through its temperature especially that we propose to attain the desired therapeutic end.

The temperature of the water injected varies from 0° to 50° centigrade. Hagar and Kaltenbach, in their treatise on gynecology, establish arbitrarily five classes according to the degree of temperature of this water. They call water cold which has a temperature of from 5° to 15°; cool, from 15° to 22°; tepid, from 22° to 26°; warm, from 26° to 32°; very warm, above 32°. We are contented generally with two classes, and we understand by cold water that whose temperature is below 10°, and by warm water that of which the temperature is above that of the body.

Rectal injections of warm water, already known for a long time, have recently been again brought into vogue by J. A. Chadwick. This author, after having shown how, when introduced into the rectum, the water enters into a mediate contact with the genital organs upon a far more extended plane than when it enters by way of the vagina, extols this method: 1, in inflammatory conditions of the rectum and of the large intestine, acute or chronic, accompanied by pain, diarrhœa, etc.; 2, in inflammation of the pelvic organs with painful defecation, pains in the kidneys, sensation of burning in the abdomen. In order to be efficacious, this douche ought to be as warm, as abundant and as long as possible. The temperature of the water ought to be such that it could scarcely be supported by the hand, that is to say from 43° to 44°.

But vaginal injections are above all those which are used in gynecology. These injections, known also and practiced for a long time, have just been studied anew with care by Max Runge. It is the interesting results obtained by this author that we desire to make known here.

In a former work, Runge had published the happy results which had been afforded him by injections of warm water in the case of chronic or old inflammatory masses surrounding the uterus, in the case of bloody discharges taking place from the uterine mucous membrane, and also in cases where the two preceding conditions were combined. He explained the action of this plan of treatment in two ways: first through the temperature, then through the contact itself of the liquid, which would exercise locally a sort of massage upon the tissues in contact with the vagina.

Schultze, criticising the preceding work, without denying the therapeutic action of the injections of warm water, reproached the author for not speaking of cold water; there was there an interesting point of comparison to be established, and the absence of it rendered the study of Runge incomplete.

To supply this want, Runge studied experimentally and clinically the results furnished by hot water and by cold water.

The animal experimented upon was the rabbit. After having opened the abdominal cavity of a female rabbit, and exposed the uterus, water at the temperature of 5° is poured upon it, in such a manner as to constitute a bath of this water around the womb. The uterus enters immediately into tetanic contraction, it becomes pale and faded. The contraction lasts about a minute then ceases and is soon reproduced, and so on successively during some moments. If the water which bathes the uterus is renewed in such a way that the temperature remains at 5°, the tetanic contraction is more prolonged and lasts from ten to fifteen minutes. Then the circulation is re-established and, at the close of half an hour, the organ is restored to its normal condition. If, after this experiment, we essay the use of other excitants, such as heat, electricity, we see that violent contractions take place in the uterus, proof that the employment of cold has not caused it to lose its excitability.

Upon the uterus of a second rabbit, placed under the same conditions as the preceding, water at 50° is poured. Then peristatic contractions of the uterus are produced, but not a prolonged tetanic contraction. After that the uterus returns little by little to its normal condition, but assuming a bluish coloration. The application at this moment of a new excitant, such as cold, electricity, and even the most energetic, strychnine, produces no effect. This stadium of paralysis lasts from 20 to 30 minutes, after which the uterus is restored to its normal state. In placing water at different temperatures in contact with the uterus, and on increasing, little by little, the degree of this temperature, it is seen that it is at 40° that the stadium of paralysis commences. Below 40°, we have the tetanic contraction of the uterus, followed soon by a return to the normal state; above 40°, are observed peristaltic contractions of this organ followed by the paralytic stadium, which is more prolonged the hotter the water is.

These results, furnished by experimentation, indicate then a different action between cold and hot water. It remained to consult clinical facts, and to see if the uterus of women, like that of the rabbit, would comport itself otherwise in the presence of water at these two different temperatures; for we ought not to be in a hurry to draw conclusions from the animal to man. But, in a series of cases, when the two treatments by hot water and by cold water were carried out, it was impossible for the author to distinguish the least difference in the therapeutic effect. The local effect was the same in both cases. Whence the conclusion of Runge, that from the point of view of the action of these two kinds of injections, there exists no difference in women. But if the therapeutic action is the same, is there no other reason for giving the preference to one rather than to the other? Practice answers this question, and the far more extended use of hot than of cold water indicates that it ought to be preferred. The causes of this preference are the following:

The first is that hot water is far more easily procured than water sufficiently cold. The second is that, according to the observations of many physicians in the case of grave hemorrhage, hot water exposes less to danger of collapse than cold water. Finally, the last is the preference accorded by the women themselves to water raised to a high temperature, this latter not provoking the local pains and uterine colic which the contact of cold water often induces.

ORIGINAL ABSTRACTS.

The Micrococcus of Gonorrhœa.—Leistikow (*Berliner Klin. Wochenschrift*) corroborates Neisser's researches on this parasite. He found it present in two hundred cases of urethritis. It is distinguishable from other parasites causing infectious diseases, and is found in the interior of the pus globules which make up the discharge present in this disease. It is never found in other than gonorrhœal discharges. Its presence suffices to prove the specificity of a complication (arthritis or ophthalmia). Few in number during the early stages of the disease, it increases more and more in number as the disease advances. Its disappearance shows that the danger of contagion has disappeared. Elkund (*Medical Press*) has always found in gonorrhœa the micrococcus described exactly by Neissen, the diameter of which varies from less than 0.1 to 0.5 mm., and larger. These are as brilliant as pearls. The whole of the round cells called pus are perfectly full of these, and they are also found in innumerable quantities in the intercellular liquid. Sometimes they move rapidly, sometimes they are united like a figure of 8, which, according to Neissen, proves that their pullulation takes place by scission. When tinged with aniline violet, it is seen that the micrococcus is a flat plain disc, not a spherical ball. Dr. Elkund does not believe that these microbions represent the only specific part of gonorrhœa, since he has found similar and probably identical ones in acute and chronic diseases of the intestines and lungs, and in ulcerative stomatitis. The common office of these organisms is to produce acute inflammation with desquamation of the epithelial cells, and the formation of pus cells which are filled by them.

Actual Cautery in Corneal Ulcers.—Prof. Mauthner and Dr. Bergmeister (*Wiener Med. Woch.*) advocate the use of the actual cautery in corneal ulcers which prove intractable to ordinary treatment, tend to spread at the periphery, and thus to involve the entire cornea, the ulcus serpens of Sæmisch. The method employed and recommended as being simple and efficient is to heat an ordinary strabismus hook to a red heat over a spirit lamp, placed behind the patient's head, out of sight, and then quickly but very lightly and cautiously swept over the floor of the ulcer. Dr. Bergmeister now employs, as more convenient, a little platinum loop attached to the galvano-cautery. The operation is only in the slightest degree painful, not more than any ophthalmic operation, while the results are excellent. The destructive process is at once arrested; the necrotic slough is soon cast off, showing the ulcer with a clean surface; and the healing process progresses rapidly. The opacity or cicatrix left after treatment is very much less marked than when any other method of treatment is employed; in fact, the process of healing, as a rule, does not consist in the formation of a more or less opaque connective tissue cicatrix, but in epithelial proliferation and spreading from the edges of the ulcer, resulting in the formation of a "facette" almost perfectly transparent.

Hepatic Cirrhosis of Cardiac Origin.—Dr. Sabourin (*Révue de Médécine*, July, 1883) concludes that cardiac affections may produce true hepatic cirrhosis, which is seated in the sub-hepatic venous territory, and is easily recognizable.

Multiple Cerebral Sclerosis in Children.—Dr. Marie (*Révue de Médécine*, July, 1883) concludes that in childhood multiple cerebral sclerosis is most frequent toward the age of three to four years. The symptoms are the same as those of adults, and resemble, but are distinguishable from those of hereditary ataxia.

Aural Diseases from Mumps.—Dr. Roosa (*Archives of Otology, Volume XII.*) concludes that the following diseases are found as a result of mumps: 1. An acute catarrh of the middle ear may occur during the course of mumps, and be attended by fever and vomiting. 2. This catarrh may extend from the parotid gland through the auditory canal and outer layer of the drum-head, or through the mastoid process. 3. An affection of the labyrinth may occur simultaneously, or by extension from the middle ear. 4. It is probable that there are cases where the disease is transferred to the labyrinth in the same manner that an inflammation sometimes occurs in the testes and the breasts during the course of mumps, but this cannot be considered as proved until more detailed experience is furnished of cases observed a few hours after the impairment of hearing occurs. Roosa's cases have convinced him that any hope of retaining the hearing power must depend upon the prompt use of local antiphlogistic means. If the labyrinth is invaded, cure is doubtful, even if the cases be seen at the instant the hearing becomes affected.

HAY FEVER.—Dr. J. C. Roc (*New York Medical Journal*, May 19, 1883) concludes: 1. That hay fever is an affection not confined to age, sex, or condition in life. 2. That it is excited by the pollen of flowers or grasses, dust, or other irritating substances floating in the atmosphere, which are brought, by inhalation, in contact with the nasal and bronchial mucous membrane. 3. That the nasal mucous membrane in certain individuals is very susceptible to the irritating effect of these substances, while in others it is not. 4. That this hyperæsthesia is associated with or occasioned by a diseased condition, either latent or active, of the naso-pharyngeal mucous membrane and with an hypertrophied condition of the vascular tissue covering the turbinated bones and the lower portion of the septum. 5. That the systemic disturbances, such as asthma, etc., are the effect of the local irritation of the diseased tissue in the nasal passages which is reflected to the larynx, bronchi, and lungs, causing in them a fluctionary hyperæmia, produced through the correlating function of the sympathetic ganglia connecting these different regions. 6. That the treatment during the attack can only be palliative, such as to soothe the inflamed parts and to quiet the systemic disturbance which may be occasioned. 7. That in most cases the only effective relief, during the attack, consists in going to a seaport or mountainous region, or to any locality where the air is free from the substance which produces the irritation. 8. That curative measures can only be adopted when the individual is free from the attack. 9. That the removal of the diseased tissue in the nasal passages removes the susceptibility of the individual to future attacks of hay fever.

HEPATIC ABSCESS.—Dr. J. K. Fowler (*Lancet*, January 20, 1883) states that the trocar is preferable to the incision for evacuating hepatic abscesses, since: 1. The risk from hemorrhage is much less; for when the liver is incised there is often a violent gush of blood. This, it is true, soon ceases; but these patients are usually not in a condition to bear a loss of blood which Mr. Lister describes as "alarming." 2. There is less danger from septic absorption along the track of the wound, as the pus flows through a canula or drainage tube. 3. As a trocar of any diameter may be used, the opening into the sac may be of any size that is considered desirable. For an exploratory puncture he prefers one having a diameter of one-eighth of an inch; but if there is certain evidence of the presence of pus, it is very important to employ an instrument of at least three-eighths of an inch or half-an-inch in diameter. If a smaller one be used, it is liable to get blocked by the solid shreds of liver tissue which these abscesses so frequently contain.

MONOMANIA.—Dr. J. G. Kiernan (*Detroit Lancet*, February, 1883) quotes

Griesinger as saying, concerning "primäre Verrücktheit," which is a nearly equivalent German synonym for primary monomania, "that the term monomania, introduced by Esquirol, is especially adapted to designate these states, provided it could always be restricted to a special form of mental disease." The same suggestion was made independently at a later period by Spitzka, who had accidentally ignored Griesinger's suggestion. The lawyers have endeavored to apply the term monomania to a purely ideal hybrid creation of their own—a man sane on all points but one. The monomaniac as met with in practice is not sane on all points but one. The outward expression of his insanity is limited to one or a few points. He cites the following case illustrating these legal views which has been recently reported by a physician: "The delusion of an otherwise sane Chicago man was that his cane was possessed of a spirit. He talked to it, never let it be out of his sight in walking, and kept it by him when asleep." Here the patient manifested evidence of delusions, of hallucinations, of perversion of will power; yet he is regarded as sane otherwise than as to his delusion. The expression of his insanity was limited, and it is from this limited expression of insanity that the term monomania is used. The lawyer's idea of monomania is like that expressed in the case cited, a little insanity; sharply demarcated from sanity; both coexisting: As Dr. Beard has well said, "a man cannot be little insane any more than he can be a little dead." The monomaniac is an insane man, his insanity finding expression in a few characteristic symptoms. The essential characteristic of monomania is its deficient associating power, and how far this deficient associating power may lead such a patient no one can tell except by scrutinizing each individual act or thought. This is not the case with the ideal monomaniac of the lawyers who has a single or a few delusions imbedded in an otherwise sane mind. In this type of insanity there can be no change of character, since the patient is insane from his birth. There is, as Griesinger remarks, rather a "stronger development and increase of peculiarities of character."

COLOR PERCEPTION AT THE RETINAL PERIPHERY.—Charpentier (*Archives d'Ophtalmologie*, Jan.-Feb., 1883) concludes: 1. It is certain that the peripheral parts of the retina are not achromatopic; they are capable of perceiving all the colors, or, at least, the primary colors. 2. In order that the periphery of the retina may perceive color, the latter must be very intense. The acuity of perception of colors diminishes progressively from the centre to the periphery of the retina. 3. The condition of intensity is the one necessary factor, and one need not employ very large colored surfaces. 4. If the retina is not achromatopic at the periphery, it may be dyschromatopic; and it is so in the sense that it perceives the centre much better than the colors; but it might be so in another sense, if it perceived certain colors more easily than others, comparatively to the centre or at a point less eccentric.

WEIGHT OF THE BRAIN.—Pflueger (*American Journal of Neurology and Psychiatry*) concludes: 1. That there is no marked difference between the relation of the brain-weight to the cranial capacity in the adult between the twentieth and sixtieth year; a decided decrease of the brain-weight occurs after the sixtieth year and a still more pronounced decrease after the seventieth. In all these respects both sexes appear to be equal. 2. The absolute brain-weight increases as the body-length and trunk-length increase. 3. The relative brain-weight decreases with increase of stature; this decrease is more constantly expressed in the isthmus and cerebellum than in the cerebrum. 4. The absolute increase in weight accompanying increase in stature is not an equal one as regards the different brain-segments, it is a constant factor only in the case of the cerebrum. 5. The skull cavity of the female is smaller than that of the male, in proportion to the body as well as the trunk-length. 6. The female has an absolutely and relatively lesser weight than the male brain. 7. In comparing the weight of various cerebral segments in the sexes, the greatest difference is found in the cerebrum, the least in the cerebellum; it is also found so in those dying of acute diseases; the cerebrum is relatively greater in the male, the cerebellum and isthmus in the female. 8. The female brain appears to be a little heavier than the male, in proportion to the corresponding skull-cavity dimensions. 9. Even in this respect, it is found, however, that this relative greater weight is due to a preponderance of the isthmus and cerebellum. 10. The sexual difference in brain-weight is greatest in those dying of acute diseases, reaching as high as fourteen per cent. 11. The sexual difference is lessoned by chronic diseases in the sane and in insanity, being ten per cent. in the former and eight per cent. in the latter. 12. The male brain loses more in weight with insanity than the female brain, and this relation remains unshaken by excluding the case of paralytic dementia.

ACUTE PRIMARY RETRO-LARYNGEAL ABSCESS.—Goix (*Archives Génèrale de Médecine*) concludes: 1. Acute primary retro-laryngeal abscess consists in an inflammation of the connective tissue in the retro-laryngeal space. 2. It is characterized by the simultaneous occurrence of fever, laryngeal pain, vocal feebleness and hoarseness, cough, dysphagia, and symptoms of laryngeal stenosis. 3. Normally, when moved from side to side, the posterior edges of the thyroid cartilage may he felt to glide over the vertebral column; this thyro-vertebral friction disappears in retro-pharyngeal space. 4. The gravity of this disease cannot be explained by mere interference with respiration from glottis œdema, the inflammatory irritation of the various laryngeal nerves should be taken into consideration. 5. The best treatment seems to be the administration of large doses of tartar emetic and application of blisters. If tracheotomy is required, pus should be evacuated, even after this operation.

CONSTITUTIONAL DISEASES AND THE RETINA.—Dr. Possadsky (*St. Petersburg Med. Wochenschrift*) concludes that: 1. In all forms of typhoid fever there is hyperæmia of the retina, and granular opacity of the third, fifth, seventh, and ninth retinal layers (of different intensity in the different fevers). 2. In chronic pneumonia: Hyperæmia, hypertrophy of the connective tissue, granular opacity of the third, fifth, and seventh layers, and occasional pigmentation of the stroma and the ganglion cells occur. 3. In croupous pneumonia: Serous infiltration of various parts. 4. In peritonitis: Hyperæmia, infiltration of the tissue with white blood-corpuscles, opacity, and swelling of the third, fifth, and seventh layers. 5. and 6. Meningitis and pyæmia: Hyperæmia with extravasation blood-corpuscles, infiltration of the tissue, opacity of third, fifth, and seventh layers (less marked in pyæmia). 7. In uræmia: Hyperæmia with extravasation, cellular infiltration of the tissue, slight haziness of the nervous elements. When the ureters were ligated: Serous infiltration of the retina. 8. In chronic alcoholism: Hyperæmia with extravasation and cellular infiltration, hypertrophy of the connective tissue, coarse granular opacity of the third, and fine granular opacity of the fifth and seventh layers. 9. In jaundice from hepatic cirrhosis: Hyperæmia, hypertrophy of the connective tissue, and fine granular opacity of third, fifth seventh, and ninth layers. 10. In pleuritis with pericarditis: No changes in the retina.

SELECTIONS.

TUBERCULOSIS.—Since Koch's discovery of the bacillus, contributions to this special department have multiplied at a very rapid rate. The latest and in some respects the most instructive of these essays is contributed by Dr. Ribbert, of Bonn, to the last number of the *Deutsche Medizinische Wochenschrift*, and it consists in a briefly summarized account of some investigations into the pathological anatomy of the tuberculosis of fowls, particularly with reference to the presence of bacilli in the tubercular formations. In the presence of the doubt which still prevails in some quarters respecting the identity of bovine and human tuberculosis—a doubt which is in a fair way of being dispelled if Koch's bacillus is to be taken as the criterion of true tuberculosis—it will excite some surprise and perhaps some consternation to learn that a disease which occasionally ravages the poultry-yard is characterized by the same micro-organism. If Dr. Ribbert's observations be confirmed in every particular, our ideas concerning tuberculosis will require to be still further extended, and another possible source of infection through food will have to be admitted. For our own part we do not desire to press this suggestion too far, and will be contented with giving an account of Dr. Ribbert's research.

Tuberculosis had been unusually prevalent among poultry in Cologne and the neighborhood, so he had ample material to examine. He found the characteristic changes most marked in the intestinal tract, the liver, and the spleen. In the intestine there were beneath the serous coat nodules varying in size from a pin's head to a walnut, the smaller ones projecting beneath the mucous membrane, which was puckered in a scar-like manner over the surface of the larger masses. On section these growths presented much caseation. The foci in the liver and spleen were some of them almost microscopic, others varying in size up to that of a cherry, the larger nodules being caseous in the centre. Occasionally similar nodules occurred scattered through the lungs and kidneys. All these tubercles were the seat of baccilli in great numbers, generally massed together in groups, and so abundant that in the stained sections their presence could be detected with the unaided eye. Their disposition in the nodules was peculiar. Thus in the very small hepatic nodules the bacilli were collected in the centre, the periphery being composed of inflammatory tissue. The nodules next in size presented an area in the centre partly caseous and wholly free from bacilli, which were grouped in a zone outside this. In the largest tubercules it was possible to distinguish four zones—viz., a central caseous mass, a zone of tubercular cells free from bacilli, then the bacilliferous zone, and lastly the outer zone of inflammatory tissue. It would appear as if with the growth of the nodule the bacilliferous zone continued to extend its area, and that caseation occurred, not from the direct action of the bacilli, but from the shutting off of the blood supply.

Perhaps the most interesting fact that comes out of Dr. Ribbert's work consists in the observed relation of the bacilli to the bloodvessels, particularly of the lungs, where the indurated vascularized areas surrounding caseating tubercle yielded on examination the following facts. The parallel bundles of connective tissue forming the walls of the veins were seen to be thickly invaded by the bacillus, which occurred in irregularly shaped masses, in places encroaching upon the lining membrane of the vessel, the bulging of which produced the appearance of minute tubercles, and rendered thrombosis probable. The bacilli were specially massed within the mesh-like spaces of the connective tissue forming the vessel wall. Caseation was not to be found in these structures, and the arterial walls were similarly invaded by the bacillus. It is suggested that, if the same invasion of the bloodvessels occur in the human subject, we may not have to go far to seek for an explanation of that rather inexplicable occurrence in the history of pulmonary phthisis—viz., early hæmoptysis. The vessel wall, weakened by the invasion of the micro-organism, yields before the blood-stream and gives rise to the hemorrhage, and the discovery by Hiller of bacilli in the sputa of cases of this initial hæmoptysis seems to support the inference, which, however, should not as yet be allowed to go beyond the region of hypothesis. More plausible is the other inference which Dr. Ribbert deduces from this involvement of the veins—viz., the facility with which a general tubercular infection may arise secondarily. He is careful to point out that there is no question here of any special form of new growth in the vessel wall; but the essential feature is the presence of bacilli in situations admirably calculated to ensure their entrance into the circulation.

A few remarks upon the character of the tuberculosis of fowls conclude his suggestive paper. The large size and advanced character of the intestinal nodules point to the alimentary canal as the primary seat of the disease, the liver and other organs being secondarily infected. It is easy to infer from this that an epidemic of tuberculosis in the poultry-yard may arise through feeding, the excreta of the fowl affording the virus. But this hypothesis has not received direct confirmation. Dr. Ribbert has not found bacilli in the excreta examined, nor was he able to induce tuberculosis in two fowls with whose food excreta from tuberculous fowls were mixed. On the other hand, he succeeded in inoculating fowls with tubercle by the introduction into the abdominal cavity of portions of the intestinal nodules. The inoculated tubercle, it may be remarked, did not occur in the intestine, but only in the spleen and liver, nor did it present many bacilli. Inconclusive as this part of the research appears to be, it opens up a new field of research, which we trust pathologists will not be slow in following up. It shows further, how much may be gained from comparative pathology upon this most interesting subject of modern research.—*Lancet.*

Forcible Digital Dilatation of the Pylorus.—Prof. Pietro Loreta has published as a monograph the memoir which he read before the Academy of Sciences, of Bologna, on the 11th of February last, on Forcible Digital Dilatation of the Pylorus (" Intorno alla Divulsione Digitale del Piloro "). To summarize the facts. Nicola C——, aged forty-seven, had suffered for the greater part of twenty years from imperfect digestion, distension of the stomach, sense of weight, and occasional vomiting. In 1878 he was admitted into the Bologna Medical Clinique, and treated for ulcer of the stomach. Relief ensued, but only for a short time. Eructation, a burning feeling in the throat, vomiting of undigested food, sometimes mixed with blood, increasing emaciation, and pallor of the skin and mucous membranes were noted. The man subsisted on a little milk. The distended stomach gave a clear note on percussion from the fifth rib to the umbilicus. Microscopic examination of the fluid drawn by pump from the stomach yielded no evidence of organic lesion. On palpating the emptied stomach, a tumor could be felt in the pyloric region, with smooth and elastic surface, but not very well defined limits. As the patient was steadily sinking, Professor Loreta, on September 14, 1882, operated, in the presence of numerous colleagues; Dr. Alfons Poggi administered chloroform. The stomach was washed out with an alkaline solution. The incision into the abdominal wall was commenced a little to the right of the linea alba, and extended outwards and downwards for six inches; the lower angle was an inch and a quarter from the ninth right costal cartilage. In the incision were included the oblique and transverse muscles, and also a part of the rectus. On reaching the peritoneum, the Professor stopped to tie some arteries and to wait the complete arrest of bleeding from the edges of the wound. The peritoneum was then opened. The omentum was extensively adherent by old inflammatory exudations. These were separated very slowly and carefully from the abdominal wall and from the surface of the stomach. This viscus was then drawn out through the wound, and the operator felt the pylorus much enlarged and of fibrous hardness. In the space between the two curves of the stomach, and at a distance of an inch and a quarter from the pylorus, an opening was made into the viscus with a stout pair of scissors through a transverse fold previously raised. The opening into the stomach was extended two inches and a half, and **T**-shaped forceps were used to arrest bleeding from the edges. The right index-finger was then passed into the stomach towards the pylorus, which was completely closed. The finger failed to pass into the duodenum, in spite of considerable pressure and combined lateral and rotatory movements. The left index-finger was then introduced into the stomach and used to fix the pylorus, while strong and renewed pressure was exerted to push the first phalanx of the right index into the narrow and contracted pylorus, which was then drawn forwards to the external wound. Along the right index-finger the left one was also introduced into the pylorus, but these attempts failed to pull one finger from the other in spite of much force, sustained as long as possible (" moltissima forza, nel sostenerla quanto più a lungo potessi "). After resting, the operator resumed his efforts and dilated the pylorus, though he only succeeded in doing so very slowly, and by employing very great force. The dilatation was continued to about three inches (eight centimetres). The stomach wound was then sutured with carbolised silk, the viscus replaced in the abdominal cavity, and the external wound closed with seven silver sutures. The patient was returned to bed thirty-three minutes after the commencement of the operation. On regaining consciousness the patient complained only of thirst and of a slight burning sensation at the wound. Small pieces of ice were given from time to time. In the afternoon the patient complained of weakness and hunger, and relished the yelk of an egg beaten up with Marsala wine, given in teaspoonfuls every half-hour. The temperature throughout the day was 98°, pulse 72, respiration 26. The same kind of diet was continued. The third day after the operation the bowels acted after an enema, the fourth day some broth and light paste were allowed, the fifth day some chicken, the sixth day bread was added the diet. On that day the bowels acted spontaneously. The wound was first dressed on the eighth day, and five sutures removed. The incision had healed by the first intention. The two remaining sutures were removed on the eleventh day. The thirteenth day after the operation the patient's diet consisted of coffee and milk, bread, roast chicken, roast beef, eggs, and wine. He was out of bed for two hours and a half on the sixteenth day, and rapidly gained flesh and strength. Two days before the operation the man weighed 122 lb., and gained about 33 lb. in six weeks. He continued to enjoy perfect health when presented to the Bolognese Academy after the lapse of five months. Professor Loreta subsequently performed a similar operation in another case, and with equally good result, but in this instance he experienced much less difficulty in dilating the pylorus.—*Lancet.*

Hypodermic use of Sulphate of Quinine.—Dr. N. L. Guice, of Fayette, Mississippi, writes as follows for the *Mississippi Valley Medical Monthly:* It is apparent that, owing to the presence of white fibrous tissue in such abundance, the subcutaneous areolar tissue, when filled with fat cells, does not possess the requisite elasticity, and hence the injection of thirty minims of fluid would, of necessity, by causing extreme tension and even laceration, inflict such a degree of violence as *might* lead to inflammation and its consequences, regardless of the character of the fluid injected.

Owing to the insolubility of the sulphate of quinine, and to the large doses required, the solutions which have been in use have necessitated the injection of a comparatively large quantity for a single dose. This is consequently of all others *the* hypodermic solution with which the violence of which I speak has been done, as it is equally that against which the loudest complaints have been uttered. It requires some effort, as I have witnessed, to force an injection beyond a few minims into the parenchyma of the areolar tissue. This of itself is proof of the absence of the requisite elasticity, while the evident resistance should warn the operator that violence is being inflicted upon the tissues composing the structure.

This, I must insist, serves to explain the comparative danger of a large or small hypodermic injection of the "mildest solution" of quinine. In other words, the bad results following the hypodermic use of quinine have been due (*mainly*) and consequent upon the method of giving the injection, rather than to the quantity or irritant properties of the solutions used. The formula for the quinine solution which I have used is the following, to wit: ℞. quin. sulph., 1 drachm; aq. pur., 1 oz.; acid sulph., dil., m. xl., or q. s. to form solution. Mix and filter.

Sixteen years' experience with this acid solution bears me out in the above opinion. I have used this solution hypodermically with a large number of patients, varying from two to sixty years of age, and have never witnessed what could be considered *bad* results—the worst being a cold abscess containing a few minims of pus. I do not remember to have seen this trifling and painless abscess in more than two or three patients. Upon being opened, these abscesses healed without trouble. To adults I have rarely given an injection of less quantity than thirty minims of the quinine solution, and have often given repeated injections of this quantity to the same patient. In one case reported to this Association in 1879, I gave sixteen injections of thirty minims each (representing sixty grains of quinine), to one adult patient within twenty-four hours, with the very best results.

This success has been due, in my opinion, to my method of giving the injection, which is such as to avoid laceration, or even *tension* of the tissues as a result of the injection. This (method) may be described as follows, to wit: I select a region where the inner surface of the subcutaneous areolar tissue is loosely adherent to the subjacent tissues, usually the dorsal surface of the forearm, or the front and lateral regions of the thorax or abdomen. With the thumb and index finger of the left hand I elevate the skin and entire thickness of the areolar tissue. I then pass the needle of the syringe entirely through these structures at a right angle to the direction of the fold, carrying the point beneath the inner surface of the areolar tissue and depositing the solution in the loose elastic tissue connecting the areolar with the subjacent tissues. In this manner I give all hypodermic injections, either of one minim or of thirty. Scrupulous care is particularly required with subjects possessing a free development of the subcutaneous areolar tissue; for it is in these subjects especially that we are liable to deposit the solution in the parenchyma of this tissue.

The method above described for giving the hypodermic injection is probably that recommended by Dr. Roberts Bartholow in his valuable monograph entitled "Hypodermatic Medication." The method advised by him is the following, to wit: "Take up between the thumb and forefinger of the left hand a loose fold of skin in some convenient situation. Push in the needle with a quick and decided motion, at a right angle to the direction of the fold. The resistance ceasing, it will be known that the needle has perforated the skin, and the point of the needle may also now be freely moved about in the subcutaneous areolar tissue. It is better to pass the needle for an inch or more under the skin, to have sufficient space for fluid." (Hypodermatic Medication, 4th ed., page 43.)

This description of the operation, coupled with Dr. Bartholow's recommendation to give the injection in "the arm, the outerface of the thighs, the calves, the abdomen, and the back," would indicate that such is his method. But, as it appears to me, he is not sufficiently explicit in his description, except for subjects presenting a very moderate development of the subcutaneous areolar tissue.

In the early history of hypodermic medication it was very fashionable to give the injection in the deltoid region, when, in fact, this region should be avoided because of the density (there) of the areolar tissue, and of its firm and close adherence to the adjacent tissues by short, strong filaments of fibrous tissue.

The solution of the sulphate of quinine preferred by Dr. Bartholow for hypodermic use, is the following:

℞. Quinine di-sulph., gr. 50; acid, sulphuric, dil., m. 100; aqua font., 1 ounce acid, carbolic, liq., m. 5. Solve.

The addition of the carbolic acid is doubtless advantageous, serving as it does to prevent the development of the *penicilium* where solutions are kept for use. This, or a similarly prepared solution, I will try in the future.

Other preparations of quinine, as the kinate, hydrobromate, etc., are thought to be safer, and hence better for hypodermic use; but as a rule these preparations are not kept by druggists, and are hence not readily accessible to the physician.

Anæsthetization with Nitrous Oxide and Air, or Nitrous Oxide and Oxygen, under Pressure.—Dr. E. P. Howland, of Washington, read a paper in which he embodied the conclusions derived from a large personal experience with M. Paul Bert's method of using nitrous oxide as an anæsthetic, and demonstrated the process. He believed that the plan would yet supersede the use of ether and chloroform. The reason why nitrous oxide, as ordinarily administered, could not be used for prolonged operations was that the blood could get no oxygen from the agent, for it was expired unchanged, so that asphyxia was produced. Pure nitrous oxide, therefore, could never be made practical for long operations. In the author's experiments with it on animals, death generally occurred in two minutes and a-half. If air or oxygen were mixed with it in sufficient quantity to prevent asphyxia, it would not produce anæsthesia. Under pressure, however, these objections were done away with.

The author then gave a summary of M. Bert's experiments, and cited a number of instances in which French surgeons had performed capital operations under anæsthesia by the method in question. The paper closed with the following conclusions:

1. Nitrous oxide, administered under the pressure, and mixed with oxygen, produces within several seconds a profound insensibility.

2. Under these conditions, life may be indefinitely sustained without the least danger of asphyxia.

3. In augmenting or diminishing the pressure, the degree of anæsthesia may be regulated at will, and with mathematical precision. Therefore, there is no danger of any of the accidents incurred through the use of ether or chloroform.

4. When inhalation of nitrous oxide and oxygen is stopped, the patient recovers consciousness in a few seconds and feels no consequent discomfort.

5. Nitrous oxide is merely dissolved in the plasma of the blood and escapes when inhalation ceases.

6. Its use causes no trouble to nutrition and no change in the chemical composition of the organs or cessation of their functions.

7. The action of compressed air upon the operator and his assistants need not be feared. Compressed air is very efficacious in the treatment of catarrh of the mucous membrane of the nose, the Eustachian tube, and the respiratory organs.

8. By reason of these facts, a mixture of nitrous oxide and oxygen is superior to ether or chloroform, whether we consider its profound anæsthetic effect or its freedom from injurious results.

9. If the pressure of the air chamber is rightly and properly regulated it is absolutely impossible for the patient to run any risk from the anæsthesia alone.

10. In all that concerns the application of nitrous oxide and oxygen to surgery, the scientific phase may be said to be exhausted, and this anæsthetic agent should be henceforth used for operations of prolonged duration instead of ether and chloroform.

Dr. Howland then demonstrated the process: A small box was provided to serve as an air chamber, in which glass windows and a door were set and properly sealed. In this box a live chicken was placed. Into the chamber, by means of stopcocks and rubber tubes, pure nitrous oxide was first forced from a gas bag, producing insensibility in the chicken in the space of forty seconds. This was immediately followed by the mixture of nitrous oxide and oxygen, introduced from an iron reservoir, by means of which anæsthesia was sustained for seven minutes at a pressure of four pounds to the square inch. The chicken was then removed from the chamber, feathers were plucked from it for five seconds subsequent to its removal without eliciting signs of pain, and within twelve seconds consciousness was fully restored. It was again placed in the box, and pure nitrous oxide was introduced, with the result of causing death in fifty seconds. On the removal and decapitation of the bird, its blood was found to be in a non-arterialized condition.

The True Position of the Uterus, and the Mechanical Theory of Uterine Pathology, although the subject of very divergent opinions among gynæcologists, has nevertheless met with a very large measure of acceptance at the hands of the profession. Whatever may be the reason for this—whether it be generally acknowledged as an indisputable fact that dysmenorrhœa and flexions are frequently met with together, or whether it be, as is maintained by its advocates, that a causal relation exists between the flexion and the suffering, or the charming simplicity of the theory itself—true it is that the evidence upon which the theory is based has been obtained from observations made in women suffering from uterine troubles, and from such only. It is therefore of a very one-sided character, and far from conclusive. During the last two years the theory has been the subject of a very critical examination; the evidence in its favor has been carefully sifted, while new inquiries based on scientific principles have been carried out, which throw a new light on so-called misplacements, and which are calculated to settle finally the much-discussed question—the part played by flexions in the pathology of the uterus. These inquiries have been made to determine the position of the uterus (1) in women generally who sought advice for other than uterine troubles, (2) in those who did not, and (3) in those who did, suffer from dysmenorrhœa.

These researches have been conducted by Herman in London and by Vedeler in Christiania. We have on previous occasions directed attention to some of the results obtained by these observers. Additional observations by Vedeler are published in the last number of the *Archive für Gynecologie*. Herman examined 111 unmarried nulliparous women, who sought advice not for uterine troubles but for local contagious disease. In these he found the uterus anteflexed in 67, or 60·3 per cent.; straight in 43, or 39 per cent.; and retroflexed in 1. Vedeler examined 749 nulliparous women, and found the uterus anteflexed in 66 per cent., straight in 31 per cent., and retroflexed in 3 per cent. In virgins he found anteflexion present in 71 per cent. In these calculations cases of uterine disease were not excluded, so that the great frequency of flexions of the uterus shown may be due to that circumstance. To obviate this source of error Vedeler examined 414 virgins and 506 nulliparous women in whom the uterus was healthy. In the former he found the organ in a state of anteflexion in 296, or 71 per cent.;

straight in 105, or 26 per cent.; and retroflexed in 13, or 3 per cent. In the nulliparæ he found the uterus anteflexed in 361, or 71 per cent.; straight in 128, or 25 per cent.; and retroflexed in 17, or 3 per cent. So that, according to these observers, the prevailing position of the uterus is one of anteflexion, and this prevalence extends to nearly three-fourths of all nulliparous women.

The second part of the inquiry had for its object the determination of the position of the uterus, not in women generally, but in women who suffered no pain during menstruation. Herman examined 42 nulliparous women who came under this division. In these, the uterus was anteflexed in 26, or 62 per cent.; straight in 16, or 38 per cent. Vedeler examined 59 virgins and 101 nulliparous women who suffered no menstrual pain, and found the uterus anteflexed in 68 per cent., straight in 30 per cent., and retroflexed in 3 per cent.

The third object of the inquiry was to determine the sequency of so-called displacements in the subjects of dysmenorrhœa. Under this head, Herman gives the number of those who suffered slightly, as well as of those who suffered severely, while Vedeler gives the latter only. In 35 women who suffered slight pain during the period, Herman found the uterus straight in 15, or 43 per cent., and anteflexed in 20, or 57 per cent.; in 35 who suffered severely he found the uterus straight in 12, or 34 per cent., and anteflexed in 23, or 66 per cent. Vedeler examined 22 virgins and nulliparous women who suffered from severe dysmenorrhœa, and found anteflexion present in 71 per cent., retroflexion in 4 per cent., and the uterus straight in 24 per cent.

It will be noticed that there is a remarkable similarity in the results obtained by the two observers, who apparently carried on their researches quite independently of each other, and probably about the same time. Herman finds throughout a larger proportion of straight and a smaller proportion of anteflexed uteri than Vedeler; but the difference is not great. They are agreed as to the enormous prevalence of anteflexion of the uterus in the three classes of patients examined.

These figures show, further, that anteflexion of the uterus is met with in about the same proportion in nulliparous women, from whatever class they are taken —whether from the ordinary run of women who seek advice for ailments other than uterine, or from those who suffer from dysmenorrhœa, or from those who menstruate without pain. In the three classes the proportions of straight and of bent uteri are almost precisely the same. According to Vedeler's statistics, the same is true of retroflexion as of anteflexion, except that the former is much rarer than the latter in nulliparæ ; but the presence or absence of dysmenorrhœa seems to have no effect whatever on the percentage of retroflexion, any more than it has on the percentage of anteflexion.

In addition to the preceding facts, Herman found that of 57 women in whom the uterus was slightly or not at all flexed, 40, or 70 per cent., menstruated without pain, and 17, or 29 per cent., with severe pain ; of 53 women with pronounced anteflexion, 37, or 69 per cent., had no menstrual pain, while 13, or 30 per cent., had severe pain. He found, moreover, that of 23 cases of acute anteflexion, 16, or 69.5 per cent., suffered no menstrual pain, while 7, or 30.4 per cent. only, had severe pain. In 87 others with slight anteflexion there was little or no menstrual pain in 61, or 70 per cent., and there was severe pain in 26, or 29.8 per cent. These figures show that the same proportion of women suffer from dysmenorrhœa, be the uterus straight, slightly flexed, or acutely flexed. It appears, then, that from whatever point these observations are examined, they lead to the same result—a result which entirely removes the ground from under the feet of the advocates of the mechanical theory of uterine pathology. These facts have been sought for, not in states of disease simply, but also in states of health, and unless the accuracy of the observations can be impugned and the error pointed out, the pathology based upon the mechanical theory must be discarded and replaced by another more consonant with the anatomy and physiology of the organs concerned.—*Lancet.*

A Contribution to the Treatment of Empyema.* By A. T. Cabot, M.D.

Before proceeding to the consideration of the cases upon which this paper is based, I wish to review briefly the mechanical principles involved in the expansion of a lung which has been compressed by fluid in the chest, and to show how this expansion may be favored by an appropriate dressing after the establishment of a free opening into the pleural cavity.

Suppose a case of empyema in which an opening has been made and the pus allowed to escape. Upon the removal of the pressure the lung at once expands, somewhat by virtue of its own resiliency, and by the partial re-establishment of its circulation. Further, each contraction of the chest with closed glottis (cough or sneeze) presses the air from the well side over into the affected lung, partially expands this, and so forces the air or fluid in the pleural cavity out through the opening in the side. When the cough subsides, and the chest again expands, air rushes back to take the place of that just expelled. There are two avenues by which this returning air enters the chest; namely, the bronchus of the lung, and the opening into the pleural cavity.

If this latter opening be as free and unobstructed as the bronchus, the air has as ready access to the pleural cavity as to the bronchial tubes, and the pressure on the outside and inside of the lung being thus equalized it resumes its condition of semi-collapse.

If, however, the opening in the side is narrowed by the closing in of granulations or by the obstruction of a dressing, the air returning after a forced expulsion is somewhat opposed in its entry into the pleural cavity, while the bronchus admits it freely, so that the atmospheric pressure inside the lung is somewhat greater than upon its outer surface, and the dilatation effected by the cough is more or less maintained. It is thus that nature, with its fistulous openings, provides for the expansion of the lung, and we here, too, find the explanation of the gradual dilatation effected by the usual dressings of oakum or other absorbent material.

This gradual dilatation of the lung is liable to be interfered with by a provision of nature which here may act detrimentally to the healing process. I refer to the adhesion of the inflamed pleural surfaces when brought in contact. Of course, if the surface of a lung only partially dilated becomes firmly adherent to the parietal pleura, the further dilatation is greatly interfered with, and may become impossible. It is, therefore, very important to induce the lung to dilate to its fullest extent as soon as possible, so that the pleural adhesion, when it takes place, may bind things in their proper places.

That this rapid dilatation may be powerfully assisted by a proper dressing I shall endeavor to show.

The problem is to provide for the easy escape of air and fluids from the chest, and to obstruct the re-entry of air into it.

A Lister dressing, properly applied, fulfils the required conditions more thoroughly than any other which I have seen in use. The method of application which I have found best is as follows:

The tubes, of which I generally use two, side by side, are arranged so that they barely project within the chest wall, and the outer ends, after being securely fastened with safety pins and adhesive plaster, are cut off as close to the skin as possible. A handful of loose gauze wrung out in an antiseptic solution is placed around and over them, and over this a piece of mackintosh large enough to project in every direction beyond the gauze beneath it. Over this again are placed many (twelve or fifteen) layers of dry gauze, and lastly a sheet of cotton batting to provide for equal pressure. This whole dressing is held in place by a gauze or flannel bandage, some of the turns of which should go over the shoulder to prevent its slipping down.

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*Read before the Section for Clinical Medicine, Suffolk District Medical Society.

The loose gauze next the tube catches and holds the discharge, which in a favorable case is reduced to almost nothing after the third or fourth dressing, and soon becomes serous.

This rapid diminution of the discharge under antiseptic treatment, and the fact that it speedily becomes serous in character, was pointed out some years since by Professor Lister; but he did not mention, and I have never seen elsewhere described, the great advantage of this form of dressing in favoring the expansion of the lung and obliteration of the cavity. This latter action of the dressing, which will, I think, be sufficiently manifest in the cases I have reported, is due to the method in which the mackintosh is applied.

This rubber layer, impervious to air, overlaps the gauze beneath it so that its edges are held closely applied to the skin by the elastic pressure outside. How closely it clings to the skin can only be appreciated by one who has frequently removed these dressings.

When, now, air is forcibly driven out of the chest by a cough, it lifts the edge of the mackintosh somewhat and escapes, but as the elastic outside dressings immediately press the mackintosh again to the side, the air which could lift it from within cannot get beneath it from without. It acts, in short, as a valve, allowing air to escape from under it, but not to get back again.

Dr. A. M. Phelps, of Chateaugay, N. Y., in an article in the *New York Medical Record* for April, 1880, upon The Treatment of Empyema by Valvular Drainage, recommends the use of a drainage tube with a valve attached which should allow the escape of fluids from the chest and prevent the entry of air. This contrivance I have never used, as I had already found that the antiseptic dressing accomplished this same object, with the additional advantage of guarding against septic absorption. I have, however, seen a valvular tube used by Dr. M. H. Richardson, who combined it with an antiseptic dressing, but did not find that it added to the efficiency of the dressing.

My reported cases will illustrate the advantages of the antiseptic dressing, applied as I have described, both in preventing septic absorption and in promoting the expansion of the lung. They include all the cases of empyema which I have treated in this way, and one case which I saw with Dr. J. B. Swift, who operated antiseptically, and dressed the patient in the way I have described. All of these patients were operated upon under ether except where it was otherwise stated. The final removal of the tube in each case was emphasized by giving the date when the pleural cavity was finally closed. In none of them was there any reaccumulation or further discharge, and the opening always closed rapidly.

Of my fourteen cases, three died and eleven recovered.

Two of the fatal cases succumbed to phthisis, and in the remaining case the effusion had existed so long (four years) that the lung was without doubt converted into a mere fibrous cake at the top and back of the chest, and was totally unable to expand. The final cause of sudden death is unknown.

In all of the successful cases the empyema was of tolerably recent origin, so that in none of them was the lung disabled. The expansion of the lung was ordinarily very rapid. In case VII., for instance, the heart had returned to the normal position and the lung had filled the chest at the end of twenty-four hours, and this, too, in spite of the fact that the disease had existed for three months. This rapid dilatation can, I think, be fairly ascribed to the suction power of the dressing which I have above discussed. The average time that the tube remained in the chest was twenty-four days, and this low average cannot be accounted for by the influence of the children (who notoriously do well) upon the statistics, for the average for the four adults is the same (twenty-four days).

These figures, when compared with the statistics of the results of other methods of treatment, will go far to illustrate the advantages of the dressing I have described, and I feel sure, to obtain these results, the mechanical action of the dressing must be intelligently regarded.

Dr. William C. Dabney, in the *American Journal of Medical Sciences* for October, 1882, in an article entitled The Treatment of Empyema, gives a summary of his conclusions as to the value of various methods of treatment, and says in a final clause that "Listerism would probably be advisable in city or hospital practice, but is of doubtful efficacy in the country, and under no circumstances should be allowed to interfere with thorough drainage."

This conclusion might be true if the only advantage of the Lister dressing were in the avoidance of septic infection. But if we consider the mechanics of the closure of these cavities, and seek to assist the expansion of the lung, we shall find the close antiseptic dressing a powerful aid in bringing about favorable results.

REMOVAL OF THE TUBE.

One of the two tubes introduced at the time of operation is best removed when the clots have all escaped and the discharge is reduced to about one fluid drachm in the twenty-four hours. The last tube is to be finally left out when the discharge dwindles to a few drops a day—when, in short, it is no more than would come from the sinus in which the tube lies.

I think the introduction of long tubes (catheters and the like) for injection of the cavity, as recommended by Fraentzel, is to be avoided, as you thereby separate the pleural services already adhering and obliterating the cavity.

THE FETID CHARACTER OF THE PUS.

In the three cases in which the pus was fetid, the recovery was not in the least interfered with by this circumstance. Two of these patients had a chill soon after the operation, but no ill effects followed it, the temperature rapidly fell to normal and stayed there. The odor disappeared in all of them after the third or fourth dressing, and recovery was uninterrupted.

ANTISEPTICS EMPLOYED.

At first I used carbolic acid exclusively as an antiseptic, but soon substituted chlorinated soda for it as an injection into the chest, using a solution such as described above. This proved so satisfactory that I later substituted it entirely for carbolic acid in the spray and various solutions, still continuing, however, to use carbolized gauze as a matter of convenience, it being easily obtained, and never giving rise to carbolism.

To show how small an amount of carbolic acid will cause poisonous symptoms in these cases I would cite Case XII. In operating upon this boy, four years of age, chlorinated soda was used for the spray and for moistening the inside dressings, but as chlorinated soda corrodes the instruments, I laid them and the rubber tube in a carbolic solution, one part to thirty of water. This I also used to wash the boy's side before operating, and to cleanse my own hands. The minute quantity of carbolic acid which was conveyed to the wound by the instruments, tubes, and hand of the operator sufficed to cause frequent vomiting on the day after the operation, and to give the urine a dark smoky color.

THE USE OF INJECTIONS INTO THE CHEST.

Professor Lister advises against the use of injections, and regards them as unnecessary. For the simple removal of the pus, injections are certainly not needed, but in those cases in which there were purulent clots in the chest I found injections of the greatest service in removing them, and their complete expulsion is very important, as they keep up enough irritation to cause a continued secretion of pus, which quickly ceases when they are gotten rid of. When the pus is fetid, injections not only hasten the disappearance of the fetor, but speedily relieve the fever following the operation.

In using chlorinated soda for injections it will be noticed that if a strong solution be used it forms coagula with the serum. By the use, however, of a solution containing one part of liquor sodæ chlorinatæ to twelve or fifteen parts of water this may be partially avoided, and the coagula are then so soft and gelatinous that they readily escape through the tubes, and cause no trouble.

QUESTION OF OPERATION IN PHTHISICAL PATIENTS, OR WHEN THE LUNG HAS BEEN LONG COMPRESSED.

It seems as if little good were to be expected from making a free opening into the chest when the existence of phthisis is clearly proven, as such a case is unavoidably fatal, and the opening, if it is of any avail, only unnecessarily prolongs the sufferer's last days with the added distress of a disagreeable discharge from the side. Aspiration to relieve urgent dyspnœa is the only proper operative procedure in such cases.

Data are as yet insufficient to decide how long a lung may be compressed and yet recover and dilate to fill the chest when the pressure is removed. In our series, two cases in which the compression had existed for three months rapidly recovered when the fluid was removed. On the other hand I have seen the lung reduced to a fibrous cake without a vestige of proper lung tissue by two years of compression. Cases of course will differ greatly in this regard, and it would be well in a doubtful case to aspirate several times, and carefully watch the lung, and if noticeable dilatation follows the aspiration finally to establish a free opening. If no dilatation occurs frequent aspiration may be sufficient to relieve dyspnœa, and eventually to bring about closure of the cavity by collapse of the chest wall and approximation of the neighboring organs. If, however, the pus constantly reaccumulates, and gradual exhaustion threatens a fatal issue, a free incision and the resection of portions of several ribs are clearly indicated to allow the further collapse of the chest and closure of the cavity.

METHOD OF OPERATING.

In regard to the point selected for the opening, I almost invariably opened the chest in the eighth, occasionally in the seventh, intercostal space, just in front of the latissimus dorsi muscle. This place offers several advantages: the chest wall is here thinly covered by muscles; the opening is dependent in any ordinary position of the body except when lying on the other side, and yet is not so far behind as to be directly pressed upon when the patient is on the back; it is not so low as to be interfered with by the diaphragm even when this is considerably pressed upwards, as it may be after the fluid is out; it is far enough from the shoulder to allow a good dressing to be applied without interfering with the arm.

Lastly, a word as to the technique of the operation.

In opening the chest near the base there is always danger of injuring the diaphragm, or even, as has occurred, the abdominal organs, and the preliminary introduction of an aspirator needle is a common precaution to gain assurance of the presence of pus at the point selected. In some of my first cases, I used a grooved needle for this exploration, and when pus was found, the groove of the needle guided the knife directly into the cavity, and in withdrawing it an incision of proper length could be made. The only drawback to this method was that with an ordinary grooved needle the elastic skin closed into and filled the groove, and thus prevented the pus from readily showing itself. To avoid this I had a needle made for me by Codman & Shurtleff, instrument makers. It is like an aspirator needle, with a slit upon one side wide enough for the point of the knife to slip along. This form makes it impossible for the skin to press into and occlude the groove, and the pus always escapes readily along it. The handle is set at an angle to allow the ready use of the knife beside it. After the opening is made with the knife a director is slipped in, and the sharp needle removed. If after the incision one instrument is withdrawn before another is introduced a slight shifting of the muscles may close the opening, which is then difficult to find again. The operation done thus with an exploring needle is finished ordinarily in a few seconds, and the pain is reduced to a minimum, an important consideration when ether cannot be administered.—*Boston Medical Journal.*

MASTURBATION AS AN ETIOLOGICAL FACTOR IN THE PRODUCTION OF GYNIC DISEASES.

Dr. Chapman (*American Journal of Obstetrics*) closes a thorough and valuable paper on the above subject with the following conclusions:

1. That masturbation exists to a considerable extent in women.

2. That it is accomplished, as a rule, by manipulation of the external parts.

3. That its accomplishment by the introduction of foreign bodies into the vagina is in this country (Scotland) rare.

4. That decided and constant changes of the external organs of generation result from its long-continued practice.

5. That the presence of such changes (which are fully described in the paper) is sufficient to warrant the assumption of the existence of the habit.

6. That by judicious questioning and the avoidance of making accusations of moral obliquity to such patients, this assumption may be strengthened and in many cases confirmed.

7. That, apart from the use of any mechanical dilating means, masturbation is capable of producing marked relaxation of the vagina.

8. That retroversion of the uterus is of such common occurrence among masturbators that its existence in an unmarried nullipara should always be regarded with extreme suspicion.

9. That the same suspicion should be shown on the occurrence of leucorrhœa and menorrhagia *together* in similar patients.

10. That ovarian pain and even chronic ovaritis may be set up by the habit.

11. That many other affections of the female generative organs may also be thus occasioned.

12. That masturbation has so frequently a distinct etiological connection with disease of the pelvic organs, that its recognition will often prove a valuable aid towards forming a prognosis in, and directing a line of treatment for many uterine complaints in the unmarried.

NOTE.—This is all very elaborate and very well defined, but, for all that, the evil indicated, unless in boarding schools, is rarely seen in this country.—E. S. G.

THOUGHT READING.—Mr. Bishop's experiment in the matter of his wager with Mr. Labouchere. The *Pall Mall Gazette* gives the following report of the séance given by Mr. Bishop, the thought reader, at the St. James Hall, London. The easy chair set apart for Mr. Labouchere was unoccupied. The £1,000 promised was not tabled. But the experiment could be tried in Mr. Labouchere's absence, and Mr. Bishop willing to stake his £100, with no other set-off than the promise, willingly given, that the audience would demand that if he guessed the number aright Mr. Labouchere should hand over the £1,000 to the Victoria Hospital for Children. Mr. Charles Russell here introduced a diversion which kept the meeting in an uproar for nearly an hour. He sent word from the body of the hall—for he had refused to join the committee—that he had enclosed a five-pound note in an envelope and given it into the keeping of Professor Ray Lankester, who was also in the audience and who alone knew its number. He challenged Mr. Bishop to read the mind of Mr. Ray Lankester the number of that note. If successful, the note should go to the hospital. Mr. Waddy asked Mr. Bishop if he accepted the challenge. Mr. Bishop demurred. He had experimented before with Professor Lankester and found him a hard subject. The chances, he evidently seemed to think, were ten to one against his success with Mr. Lankester. To give him a fair chance he thought he ought to try with some one with whom he had not experimented before. He had, for instance, experimented with Mr. Waddy, and if he were selected as medium the chances were ten to one that he would be successful. It would be fairer to reject all whose capacity for being read had been tested beforehand, and confine the experiment to a new subject, to be freely selected by the audience. Professor Lankester did not deny the reasonable nature of this suggestion, but a large proportion roared their disapproval. A heated and violent wrangle ensued, in the course of which Mr. Bishop was freely denounced as a shuffler.

At last an old gentleman with stentorian lungs proposed that the chairman should nominate a medium. Mr. Lane Fox was suggested and negatived. A Mr. Lees was also rejected; and at last, amid great cheering, Colonel Statham, of the Twentieth Lancashire Rifle Volunteers, consented to submit to the experiment. A fruitless attempt was made to induce Dr. Lankester to impart the number of Mr. Russell's note to Colonel Statham for the purpose of the experiment, and then Colonel Trench, to whose high character the Hon. Edward Stanhope bore emphatic testimony and declared that he had never seen either Mr. Bishop or Colonel Statham before, produced a five-pound note, the number of which he did not know, and handed it to the chairman. A large blackboard was then introduced, on which Mr. Bishop was to write the as yet unknown number of the note. In presence of all the audience, closely scrutinized by the committee and the chairman, while standing at some yards' distance from Mr. Bishop, Colonel Statham unfolded the note far enough to master its number. No one else could see it, nor did any one else in the hall know it but himself. Mr. Bishop then took his stand beside Colonel Statham and drew on the blackbaord a parallelogram, which he divided into five spaces, one for each number of the note. He then blindfolded himself, and, grasping a piece of chalk, began to "read" the mind of his companion.

He shook all over, his right hand raised above his head quivered violently; he slightly touched Colonel Statham once for a second with the tip of his finger, and then, without more than a few seconds' delay, he began to chalk on the board as follows:—

6 | 6 | 8 | 9 | 4

When he reached the last figure he hesitated for a moment, clutched Colonel Statham's hand and then wrote down "4." No one who saw the impassive countenance of the volunteer colonel could tell whether Mr. Bishop had succeeded or failed. "I have guessed," he said, "by the terms of Mr. Labouchere's challenge. Have I read the number rightly?" Colonel Statham opened the note, glanced at it, and then handed it to the chairman. Mr. Bishop had won his wager. The numbers were right, and the meeting burst out into a roar of enthusiastic cheering, which was again and again renewed. Outside a great crowd was waiting to see the balloon ascent which was to announce the success or failure of the test. As it mounted in the air, displaying not the "lurid red" color of failure, but the bright light typical of success, the crowd cheered lustily. Inside the hall, when a moment's silence had been secured, Mr. Bishop said: "I appeal to this audience of three thousand Englishmen to demand of Mr. Henry Labouchere that he shall hand over to the Victoria Hospital at Chelsea £1,000 he offered to stake that I could not read the note. I have met his challenge on every point. Will you demand the money?" A great shout of assent followed by long and continued cheering, mingled with a few cries of "No," brought the meeting to a close. On questioning Colonel Statham afterwards, he said that when Mr. Bishop had reached the last figure he (Col. Statham) forgot whether it was 4 or 0. It was when he was trying to recall the figure that Mr. Bishop hesitated and grasped his hand. He then decided for the 4, which Mr. Bishop then wrote down.—*The Med. Gazette.*

TREATMENT OF PUERPERAL SEPTICÆMIA.—Dr. Alloway has treated three cases of puerperal septicæma by the introduction into the uterine cavity of iodoform suppositories. He refers to the care and anxiety of medical men, the frequent visits necessary if the ordinary method of repeated intra-uterine injections is followed, as in general practice the assistance obtained is rarely skilled enough for this. The advantages of iodoform in general surgery were now fully recognized, and it occurred to him that they might be extended to the treatment of the raw placental surface, and to the lacerations and bruises of the passages. The site of a separated placenta had been well compared to the stump of a limb after amputation. With this remedy there were not only the advantages of a topical action, but, applied in the manner directed the effect was continuous, and the vapor, or whatever it was, given off permeated all parts. Too often with injections the superficial parts were cleansed, and in an hour or so, unless repeated, the discharges were again fœtid. Dr. Alloway believes that with iodoform the intra-uterine cavity could be more effectually disinfected in these cases than with the ordinary solutions, and that the trouble of constant injections was completely obviated. The author refers to the current views on septicæmia, particularly to the formation of a virus by the bacteria in the decomposing discharges, and suggests that if, as Binz has shown, the iodoform controls the activity of the protoplasm of the colorless blood-corpuscles, it may do the same with the bacteria. In carrying out the treatment he used a Sim's speculum, washed out the uterus first with plain or carbolized water, and then with a tent-insertor passed the suppository far up into the fundus. He used them of the strength of ten, fifteen or twenty grains, and usually introduced one night and morning. No poisonous effects had been noted.—*The London Medical Record.*

ORIGINAL CORRESPONDENCE.

A CASE OF TWIN CONCEPTION—DELIVERY AT FULL TERM, WITH PECULIAR RESULTS.

NATCHITOCHES, LA., Sept. 15, 1883.

DEAR EDITOR : In reporting this case I do not intend it as a rare one, for we have authors who mention similar circumstances connected with the parturient state, with the exception of one thing connected with this case.

On Wednesday, July 4, Mr. D. J—— sent me a note stating his *femme* (wife) had been delivered of a female child at one o'clock, P.M., the day previous, and the afterbirth had not passed away and she was still very large, which led him to believe something was wrong. Please to come at once, for she had flooded until she was too weak to stand much more. I had ten miles to ride to reach the patient; found her pale and aænmic, not only from her present condition, but from a protracted illness due to malarial troubles. I made proper examination and found that there was a child still remaining in the uterus, which required speedy delivery, both for sake of child and mother. As the child's elbow presented, I ruptured the membranes, turned and delivered the patient of a male child, at six A.M., somewhat asphyxiated, which I restored by the usual means. On delivering the placenta I found the uterus filled with immense clots as large in size as this body itself, which I removed, and gave ergotine in order to prevent further flooding.

After I found all things progressing in a manner well, the patient's father, an intelligent " neighborhood accommodation," told me "he had observed, when the first child was born, the whole of the umbilical cord and a part of the placenta had passed away with the child." This remark called my attention to an examination of the afterbirth. On doing so, I found 2½ inches of the body torn near the maternal portion, which I think solves the problem of the extensive hemorrhage. I placed the patient on the supportive treatment, under which she has steadily improved up to present writing. The male child died at the age of two weeks, due to cardiac failure. Respectfully yours,

W. B. POWELL, M.D.

October 26, 1883.

DR. GAILLARD : I have just read in your September journal a letter from Jonesboro, in this State, signed J. A. Meek. That gentleman is a politician, is now, and has been heretofore, a member of the Arkansas Legislature, and, I think, was a member of that body when it passed the so-called medical law—a law for the protection of quacks, not doctors.

All his statements as to the membership of the State Society are false. There is not a member of it who is not a graduate of some medical college in good standing, nor has there ever been admitted, knowingly, a delegate who did not have his diplomas.

If this gentleman would drop politics, and read up in the literature of medicine a little, he would be better prepared to appear in medical journals as a critic of medical societies. Very truly yours,

J. M. KELLER, M.D.,
President Arkansas State Medical Society.

NEW YORK, October 29, 1883.

DEAR SIR : Will you kindly draw the attention of your readers to the following announcement regarding the U. S. Pharmacopœia: Any person having purchased a copy of the U. S. Pharmacopœia of 1880, and desiring a list of the corrections since made therein, can procure same by sending a two cent stamp to

WM. WOOD & CO., Publishers,
56 & 58 Lafayette Place, N. Y.

PROCEEDINGS OF SOCIETIES

THE AMERICAN GYNECOLOGICAL SOCIETY.

The American Gynecological Society held its eighth annual meeting at the Hall of the College of Physicians, Philadelphia, September 18, 19, and 20, holding morning and afternoon sessions. Gilman Kimball, M.D., of Lowell, Massachusetts, President of the Society, and Albert H. Smith, M.D., Vice-President, occupied the chair during the meeting. The membership of the Society is limited to sixty Fellows, about half of whom were in attendance, besides a number of invited guests and members of the profession. The papers read were up to the standard, and the discussions were able and spirited. After the morning sessions, lunch was provided by the resident Fellows, and on Thursday evening a supper was given at St. George's Hall, by the Philadelphia Obstetrical Society, which passed off pleasantly. Altogether the meeting was declared to be as successful and satisfactory as any which had been held by the Society.

FIRST DAY'S PROCEEDINGS.—MORNING SESSION.

The President called the meeting to order, and the Secretary recorded the following names as present: Fordyce Barker, New York; Robert Battey, Georgia; B. B. Browne, Baltimore; William H. Byford, Chicago, Illinois; J. H. Byrne, Brooklyn, New York; Henry F. Campbell, Augusta, Georgia; James R. Chadwick, Boston, Massachusetts; Edward L. Duer, Philadelphia; T. Addis Emmett, New York; Frank P. Foster, New York; William Howard, Baltimore; J. V. Ingham, Philadelphia; A. Jackson Reeves, Chicago; J. T. Johnson, Washington, D. C.; Gilman Kimball, Lowell, Massachusetts; W. T. Lusk, New York; Matthew D. Mann, Buffalo, New York; C. D. Palmer, Cincinnati, Ohio; Theophilus Parvin, Philadelphia; Thaddeus Reamy, Cincinnati; J. C. Reeve, Dayton, Ohio; Albert H. Smith, Philadelphia; R. S. Sutton, Pittsburg, Pennsylvania; Ellwood Wilson, Philadelphia; H. P. C. Wilson, Baltimore; Ely Van De Warker, Syracuse, New York. Some others were in attendance later whose names do not appear.

An address of welcome on behalf of the resident Fellows was delivered by Edward L. Duer, M.D. The Secretary read a communication from the council announcing that the following had been made members by invitation: Alfred Stillé, M.D., President of the College of Physicians of Philadelphia; William M. Welch, M.D., President of the Philadelphia County Medical Society; Richard A. Cleeman, M.D., President of the Philadelphia Obstetrical Society; James Tyson, M.D., President of the Philadelphia Pathological Society; Robert P. Harris, M.D., of Philadelphia; and I. R. Page, M.D., and Robert T. Wilson, M.D., of Baltimore, Maryland.

SUPERINVOLUTION OF THE UTERUS.

The first paper read was by Joseph Taber Johnson, M.D., of Washington, D.C., upon superinvolution of the uterus. He said that although this morbid condition was recognized and described thirty years ago by Sir James Simpson, and is not an uncommon affection, yet it is infrequently referred to in textbooks. Frommel found that it was present in about one per cent. of gynecological cases, and Simpson thought that the number of cases would be found to be much greater if they were properly looked after. It is to be differentiated from atresia of the uterus, undeveloped uterus, or one which has been changed by inflammatory processes. The condition of superinvolution is one of excessive action of the physiological processes of involution occurring after the cavity of the uterus has been distended by any growth, normal or abnormal; thus, involution to an exaggerated degree may follow parturition or abortion, hydrometra, physometra, hydatids, the removal of large fibroid tumors, etc. He reported four cases in his own practice.

Case I., aged 26, commenced to menstruate at 14 years of age, and continued to do so regularly, until she became pregnant, five years ago, and was delivered with the forceps; the child was still-born. On the third day symptoms of septicæmia developed, and a laceration of the cervix and perineum was found, but no metritis. She subsequently made a good recovery, except that she had an offensive leucorrhœa and sick headache at her menstrual periods. After two years had passed, her abdomen began to enlarge, and she supposed herself pregnant again, and made the usual preparations; her headaches now were relieved. About the time that she expected her confinement the abdomen rapidly decreased in size, and the tumor disappeared. Her menses had not appeared since her former pregnancy, although her health was good and she had gained flesh. Upon examination the uterus was found to be less than two inches in depth; the edges of the laceration had never healed. He performed trachelorraphy last year; the operation was successful in curing the offensive leucorrhœa, backache, and headaches, and in restoring sexual appetite. The general improvement was marked, but the menses have not returned, although electricity and the ordinary treatment were employed. She has now the appearance of robust health, although she does not menstruate. Simpson and others class these cases as invalids, and as subject to nervousness, and predict early death. Her case is an exception to this rule.

Case II., now 30 years of age, had been married ten years, and had a miscarriage several years ago, from which she made a good recovery. In addition to this history, she reported that four years ago her abdomen had swelled, and afterwards she discharged a large amount of water from the vagina. At the time she consulted the reporter her periods only lasted for one day; sexual appetite was preserved, and she was anxious to have a child. The uterus was found to measure less than two inches in depth. Electricity, massage, and the usual treatment was followed, but without marked success; her menstrual period extended to seven days, and then, after coitus, stopped for several months, when she thought herself pregnant again, but she was disappointed. No benefit was derived from the treatment.

Case III. menstruated at her seventeenth year. She was 29 years of age, and had been married five years, but had never been pregnant; it was, therefore, not truly a case of superinvolution, as no history could be obtained of distension of the uterus, but her appearance was exactly like the preceding case. The uterus seems insensitive, freely movable. Having speared it with a sharp knife, applied electricity, etc., no marked result was obtained.

Case IV. was a patient in the Provident Hospital. She had had two children, both of whom died, and she was anxious for another. Her periods lasted only a few hours. The uterus measured only one and three-quarter inches; it was, like the others, insensitive. Nothing was obtained by treatment. It was evident that she had reached the climacteric prematurely; none of her family, however, so far as she knew, had changed at such an early age.

The results of these four cases are certainly not encouraging, but they are as good as those obtained by others. Simpson reported several cases with like results. Whitehead reports a case in which the uterus and ovaries completely disappeared after labor. Scanzoni recognized atrophy of the uterus after labor. Prolonged lactation has also been assigned as the cause by Frommel. It could not have been the cause in two of these cases, because in one the child was still-born, the other was a miscarriage. Dr. Edes considers that in some cases it is the natural result of parturition: the reproductive powers have been exhausted by one supreme effort. From whatever cause it may arise, this condition exists, and should be recognized; electricity should be tried for its relief, but the cases are usually incurable.

DISCUSSION.

Dr. Fordyce Barker, of New York, being called upon by the Chair to open the discussion, said that, with regard to the term super-involution, some authorities would restrict its use to a reduction in the size of the uterus, below the natural size of the organ, after conception. He thought it perfectly proper to apply the term to any case in which this process occurs in an extreme degree, as after the removal of fibroid tumors, false conceptions, or other objects within the uterus. It seemed to him as if it might also be applied to some cases of uterine catarrh in which these identical changes have occurred, and, in fact, to all cases where retrograde processes have gone on to an abnormal extent. With regard to its frequency, the practitioner with a large consulting practice will be likely to see a greater number of these cases than other physicians. He believed that he saw two or three cases every year.

He would, in conclusion, refer to another point not mentioned by the writer of the paper, but which had been taking form in his mind for several years. He had never published it, but had mentioned it to friends; he had never seen it referred to in medical literature. In making his decision, whether we shall allow the patient to undertake the expense of treatment, he always took the precaution to examine into the condition of the ovaries—if they are associated in the diseased condition and are atrophied or defective, or if they are active in their functions. If the latter is the case, and at each monthly period there is great systematic disturbance, there is an effort of nature to relieve the plethora of the pelvic organs, the patient will be one who will be benefited by treatment; the others, where such nervous symptoms are absent, will not be benefited. He cited the following case: A lady 24 years of age, the wife of a physician, owing to an accident, being in a carriage during a runaway, had an abortion during the sixth month of pregnancy. About two months later, when menstruation should have returned, there was great constitutional disturbance, backache, etc., but there was no discharge. She was a large, strong woman, weighing 208 pounds, and in apparent health. On examination, the uterus was found to be small—extremely small—and the cervix did not show the slightest evidence of a past pregnancy. She was kept under treatment; electricity was systematically applied, the cervix was dilated with bougies, and she was given a pill containing ox-gall, aloes, sulphate of iron, and other remedies as needed. After three years' treatment she became pregnant, and he delivered her of a living child with the forceps.

He recalled another case of a lady, who, while travelling in Europe, from over-fatigue had a miscarriage, which was attended with great hemorrhage. She never menstruated afterwards, although for several days each month there was great disturbance of her nervous system, each period terminating in a sharp attack of diarrhœa. After being put on a similar course of treatment, she also became pregnant and was delivered of a living child.

The main point in the prognosis and in the treatment is to discover whether the superinvolution of the uterus is accompanied by loss of the function of the ovaries, or is associated with active ovaries; in the latter condition, the uterus may be restored; where this is not the case, treatment is of little use.

Dr. A. Reeves Jackson, of Chicago, was surprised at the statements of the paper as to the comparative frequency of this condition. He had himself seen only a single case, and that was of doubtful diagnosis. Several years ago, a woman was admitted to the hospital with which he was connected, Illinois. She was 32 years of age; her youngest child was five years old. She had been obliged to feed the child artificially because of insufficient lactation, and had weaned him entirely at five months. When she came under observation, the breasts were flabby and withered, the skin on her neck was wrinkled like an old woman's. There was very marked atrophy of the uterus, even more than usual in senile atrophy; the ovaries could not be detected at all. He finally succeeded in passing a probe through the very small os, but was surprised to find it passed in several inches; he discovered, to his dismay, that he had penetrated the fundus uteri. He did not know at that time that this accident is neither very rare nor very dangerous; in this case it produced no bad symptoms. He afterwards inserted a galvanic stem-pessary, but without results. Here is a case of difficulty in diagnosis; was it a case of premature climacteric? He thought that this might not apply to many cases, however. But here the atrophy of the uterus is due either to superinvolution or to premature menopause. The practical point in diagnosis submitted by the last speaker is well worthy of consideration.

Dr. Ely Van de Warker, of Syracuse, called attention to a possible source of error in diagnosis in superinvolution of the uterus. After laceration of the cervix there is often marked atrophy of the cervix, which does not extend to the fundus. He had never seen it except as the result of laceration. The length of the cavity of the uterus itself remains unaltered, but that of the cervical portion is very much reduced, and more in the posterior than in the anterior lip. Why it should be more marked posteriorly than anteriorly he could not say. He could easily see how a large proportion of the cases reported as superinvolution of the uterus might be of this character, and was inclined to think that one of the cases mentioned in the paper was of this character.

Dr. H. P. C. Wilson, of Baltimore, regarded the condition as extremely rare; in all his practice he had seen only two or three cases. He endorsed the remarks of Dr. Barker as to the distinction between those who can be benefited by treatment and those who cannot be. Where the ovaries are not active he had not been able to get the slightest benefit from treatment, but in the others, where the ovaries remained normal, he had been able to benefit his cases.

Dr. Robert Battey, of Georgia, confirming the remarks made by Dr. Barker, said that atrophy of the uterus is a constant result of the operation with which his name had been connected. In most of these cases of oöphorectomy the uterus is not diseased, but is healthy; but its function is interrupted by the operation. He believed that superinvolution of the uterus is due, therefore, rather to disease of the ovaries than of the uterus, because he had known this to occur very commonly after removal of the ovaries. He had never seen it follow removal of the Fallopian tubes alone, and in this view differs from Lawson Tait; indeed, he doubts if it ever occurs from simple removal of the tubes.

The best remedy is electricity, applied so as to pass the current through the ovaries rather than to the uterus itself. Dilatation of the cervix with sponge tents should also be commended.

Dr. William H. Byford, of Chicago, said that he had listened with interest to the communication of Dr. Johnson because it is on a subject which has not been exhausted by the profession. He thought that great confusion and want of distinct knowledge obscured the whole question at present. He inquired, is there any difference between superinvolution and atrophy, or is superinvolution a step on the road to atrophy? He believed himself that a decided difference exists between superinvolution and atrophy, although in the great number of cases it is merely a stage in this process. He would consider superinvolution as a condition in which the uterus preserves its normal character and its normal functions, though reduced and dwindled in size. He agreed with the first speaker that the cases should be divided into the simple form, involving the uterus alone, and the complicated, in which the ovaries participate; for although the process may go on in both *pari passu*, yet it may go on to a much greater extent in the uterus than in the ovaries. He believed that if the ovaries should become very much reduced from superinvolution, the uterus necessarily becomes so. He also agreed with the statement that when the ovaries partially retain their functional activity the case may be cured. Wherever the symptoms indicate that the ovaries are still active, we may get the best results from treatment; when these symptoms are absent, no hopes can be entertained. He believed that the time would come when, in the development of our knowledge of these processes, what superinvolution is and how it is brought about will be better known than it now is. In the meantime, the treatment mentioned, with the use of a pessary to keep up irritation between the periods, in the hope of stimulating local congestion, might be of service.

Dr. Henry F. Campbell, of Augusta, Georgia, said that he did not consider it necessary to the existence of superinvolution that there should be either atrophy of the ovaries or atresia of the uterus. He referred to a case in which there had been extreme distention, which was sufficient to cause barrenness, although ovulation apparently continued. He was called in consultation to see a case in which the attendant physician declared himself unable to determine whether the fluid was in the peritoneal cavity or in the uterus. The woman was about six months pregnant. She had an immense abdomen, and it was very tense. The woman was obliged to lie upon her side on account of this enormous collection of fluid, and her condition was serious. He determined to bring on premature labor, and did so, and a fœtus was discharged, with about a pint of amniotic fluid. Fearing that they had made a mistake, they were preparing to tap the abdomen with the trocar, when, upon making a preliminary vaginal examination, another bag of water was found protruding from the uterus, which evidently contained a blighted twin fœtus, with dropsy of the amnion. The membranes were punctured and gallons of water were expelled. The patient rapidly recovered. Although she had had children regularly every fifteen or eighteen months before this occurred, she never conceived again; yet the menstrual nisus and menstrual discharge continued. The ovaries continued physiologically active, but the woman never became impregnated again. The theory on which he had accounted for this sterility was that the over-distention of the uterus had resulted in a loss of muscular power, just as over-distention of the bladder sometimes causes permanent weakness and impairment of function. He inquired if this theory might not account for some cases of barrenness after extreme distension of the uterus, without reference to the ovaries.

Dr. Johnson, in closing the discussion, accepted the point raised by Dr. Barker, which seemed to be an important one, both in diagnosis and in treatment. There is a difficulty, however, in dividing the cases absolutely, but their condition at the menstrual periods will serve as a guide as to whether the ovaries are active or not.

The distinction made by Dr. Van de Warker he coincided in, and he had been of the opinion himself for a long time that the case referred to was really one of atrophy of the cervix; but such cases usually recover after trachelorraphy, and menstruation returns. It was not so in her case, although her health is robust and the operation was successful in restoring the parts.

In reply to Dr. Jackson, he said that he had not claimed that it is very frequent, but that it occurs often enough to demand our attention. Dr. Byford's division is essentially that of Dr. Barker. The treatment recommended was that which had been pursued, and which he would continue, and will report further results at a future meeting.

THE IMPORTANCE OF CLEANLINESS AFTER SURGICAL OPERATIONS.

R. Stansbury Sutton, M.D., of Pittsburg, read a paper, in which he gave the results of his observations while on a visit to some of the great clinics in Europe. He directed especial attention to the fact that a great change had taken place in surgical methods within a few years, and this is especially evident in the cleanliness which surgeons everywhere endeavor to secure during surgical operations and in the treatment of wounds. Formerly it was thought that all the bad influences came from within, and wounds were left open and encouraged to discharge freely, in order to purge them. Now there is a return to the earlier treatment of Galen, and wounds are closed and protected as much as possible from outside sources of infection. The cell theory led naturally to the germ theory of disease, and, as the microscope kept pace with progress, organisms were detected in the discharges from wounds, and these were regarded as noxious agents.

The object of the treatment introduced by Lister was to keep these septic organisms out of wounds, and he introduced carbolic acid and insisted upon cleanliness. The result of his teachings is that surgery has achieved better results than ever before; and yet the most active opponents of Lister are those who adopt his principles of treatment, simply modifying it by omitting the spray, or substituting other agents for carbolic acid. He denied that carbolic acid is synonymous with Listerism, or even necessary to it. Some antiseptic may be found that is better for the purpose; it is not essential. Strict attention to cleanliness in all the details of the operation, in order to keep the wounds aseptic, is the great principle of Mr. Lister's treatment. Keith is such an expert in cleanliness that he can dispense with carbolic acid; and Lawson Tait exercises the greatest care to prevent infection of wounds, so that he also can dispense with this agent and yet have good results. German surgery was formerly considered extremely dirty; now a visit to the operating rooms of Esmarch, Volkmann, Schroeder, Nussbaum, Koeberle, and others will show the most minute attention to cleanliness, although various minor modifications of the Lister treatment have been made. Listerism, or something else, has taught them the necessity of cleanliness.

DISCUSSION.

Dr. Barker asked the Chair to call upon Prof. Gross, the Nestor of American surgery, to open the discussion, as he was in the room.

Prof. Gross said that he was much obliged to the society for the honor, but he must decline, as he had come merely to listen and be instructed, and not to talk.

Dr. T. A. Emmet, of New York, in response to an invitation from the president, stated that he had nothing to add to the statements in the paper; he agreed with the lecturer perfectly. He had previously expressed the opinion that the death-warrant of the patient is too often carried under the finger-nail of the surgeon; and, since he had been abroad on a visit to the clinics mentioned, he had trusted to soap and water in preference to other antiseptics. The operator may keep himself clean, but it is very difficult to control the assistants. Lawson Tait even goes so far as not to allow any one to touch the wound or the sponges that he uses except himself, and declines the aid of an assistant.

Dr. Wm. T. Lusk, of New York, said that the paper that had just been read contained statements that would be accepted by the most ardent Listerite. He would, however, take exception to the remark that the carbolized spray should not be used unless the surroundings are impure. He thought that the danger of the spray had been exaggerated. Cleanliness, of course, is required, but, in addition to ordinary cleanliness, Mr. Lister aimed by his methods to exclude impalpable causes of disease by the use of carbolic acid. Though micrococci resist five-per-cent. solutions of carbolic acid, yet the bacteria which cause putrefaction are destroyed by this agent. He could not feel prepared to give up the spray, as he had used it successfully in operations at the hospital which he would not dare to perform without it, as such operations previous to the use of the spray were generally fatal. He had operated for ovariotomy at Bellevue Hospital in a tainted ward with perfect success under the spray, although some of his colleagues were of the opinion that under ordinary circumstances it would be simply murder. Last winter he had operated upon four cases, all presenting peculiar difficulties; in only one of them was there a rise in temperature as high as 102°, and that only for a few hours. He believed that he could not obtain as good results without the spray as with it.

Although the lecturer states that all of Keith's cases in which the spray was used died, and all those operated on since recovered, it does not follow that they died because of the spray. He could not forget that when he visited Keith, some years ago, when he had reached his forty-fifth successive successful case of ovariotomy *with the spray*, he got out his case-books to prove that the London men must come to the spray. He also stated that, whereas before the use of the spray he felt obliged to visit his patients three or four times a day, since employing it he only was obliged to visit them once a day. Certainly, very much must be attributed to experience in operating; this is the secret of Mr. Bantock's success. Mr. Lawson Tait carries out all the details of the antiseptic treatment, except cleanliness. After watching him operate, one can only arrive at one conclusion—his exceptional results are due in great amount to his personal skill and address. In removing the ovaries he makes an incision only three-fourths of an inch in length; adhesions are torn up by the finger. He operates very rapidly, requiring only a few minutes; the result is that there is very little shock, and one of the principal conditions leading to septicæmia is wanting. While such an operator may safely do without the spray and other details of Listerism, yet for operators of less skill, and under less favorable conditions the spray is still needed.

Dr. Wilson, of Baltimore, said that the profession owes a great debt of gratitude to Mr. Lister, and he had been surprised to find gentlemen crying out against Listerism and at the same time using all the details of Listerism except the spray. He had the pleasure of seeing Mr. Keith operate lately, and this operator told him that no woman ought to die of ovariotomy if she came for treatment sufficiently early. The greater success from the operation lately may be due to the fact that patients are willing to have the operation performed, instead of putting it off until they are ready to die. He thought it possible to use too much carbolic acid, and, on account of this, he does not employ the spray during the operation, but before it, in order to purify the air. Mr. Keith said that he was struck more and more with the wisdom of Lawson Tait in not having many assistants. The surgeon cannot be responsible for his assistants, although he may be clean himself.

Dr. Campbell said that surgeons were careful with regard to their patients before Mr. Lister talked about carbolic acid at the International Congress, and he thought it a great injustice to ascribe all cleanliness, past and present, to any one man. His statistics of amputations are as good as those of the surgeons who use carbolic acid, and he mentioned a case in which blood-poisoning and delirium were caused by carbolized solutions.

Dr. Sutton, in closing the discussion, protested that carbolic acid is not essential to Listerism, and believed that in abdominal surgery it had done more harm than good.

In reply to Dr. Lusk, he said that the statement that Lawson Tait uses Listerism, except the spray, was incorrect. He does not use a single drop of carbolic acid for his operations. The only antiseptic that he uses is boiling water; and, instead of using carbolic acid for his sponges, he carefully washes it all out in clean water before operating. The speaker believed him to be perfectly honest in his antagonism to Listerism.

Tait and Bantock, of the Samaritan Hospital, stand alone in their opposition to carbolic acid, and he would not hesitate to say that he thought that the day of the carbolic acid spray is over. As far as the object of disinfecting the room is concerned, the spray is simply worthless; if the floor be sprinkled, so as to keep the dust from rising, it will be more to the purpose.

The question of assistants is very important, Keith has only one, Tait very few, Billroth very many. There is also a great difference as regards the character of the cases. Billroth operates upon everything that deserves a chance of life. Some others, on the contrary, select their cases carefully. He, therefore, would place no reliance on statistics, in this class of operations particularly.

AFTERNOON SESSION.

The following were made members by invitation: Prof. S. D. Gross, of Philadelphia; R. P. Maury, M.D., of Memphis, Tennessee; and W. P. Chunn, M.D., of Baltimore.

HOT WATER IN SECONDARY HEMORRHAGES AFTER PELVIC OPERATIONS.

Dr. Albert H. Smith read a paper advocating the hæmostatic properties of a stream of hot water after operations on the pelvic organs, as well as to prevent post-partum hemorrhage by using it immediately after the placenta has been expelled. He had found that hot water would check hemorrhage even in a hemorrhagic diathesis, and expressed surprise that Dr. Skene had considered this a contra-indication to certain operations. The following points he submitted for discussion: (1) the great superiority of the hot-water douche over all other means of arresting hemorrhage; (2) its efficiency when carried directly to the bleeding surface; and (3) its simplicity.

DISCUSSION.

Dr. Reamy said that he was in the habit of irrigating the surface with a stream of hot water during operations upon the perineum, thus avoiding the use of sponges.

Dr. H. P. C. Wilson approved of the use of hot water for the purpose named both in pelvic operations and in post-partum hemorrhage. He referred briefly to a case in which he had saved a patient's life by its use, where free bleeding had followed removal of both ovaries through Douglas's cul-de-sac; he had injected gallons of hot water, washing out large clots from the abdominal cavity, and had succeeded in stopping the bleeding.

Dr. Campbell recalled a case, many years ago, of vesico-vaginal fistula in which he had to relinquish the operation on account of the hemorrhage. He thought that with the aid of hot water he might have finished it, but he did not know of its use at that time. In post-partum hemorrhage he uses warm water to wash out the uterine cavity, and then injects iodine. He called attention to an instrument—the metroclast—which has a sort of wire cage around the long nozzle of a Davidson syringe. By this expedient the water is allowed to escape as rapidly as injected.

Dr. Mann said that he had used it a great deal in post-partum hemorrhage and after removal of fibroid tumors with success, but he had a case two years ago where the injection of hot water failed to stop the bleeding. It was a case of cancer of the cervix, in which he had removed the intravaginal portion of the cervix and had checked all bleeding; but, seeing a small piece that he thought should be removed, he snipped it off with the scissors, and free bleeding followed.

He injected vinegar and hot water, but without the slightest effect. He tamponed, with no better success. He then applied Paquelin's cautery, and stopped the bleeding, but the patient was exsanguine, and died in ten minutes. Dr. Mundé had a similar case, both being reported at the New York Medical Society on the same evening.

He would not dispute the value of hot water as a hæmostatic, but thought that we should not place reliance upon one form of treatment alone.

Dr. Goodell thought that Dr. Mann had asked too much of the hot water, as the hemorrhage was evidently from a large-sized vessel. He had found it extremely valuable where oozing occurs, especially after ovariotomy. He thought it effective even beyond the limit of its actual contact, for in cases of menhorrhagia it will check the bleeding, although only thrown into the vagina. Vinegar, on the contrary, must reach the bleeding surface in order to do good. He would consider hot water as having a double advantage in its local and its indirect action. For open wounds he prefers vinegar, and in post-partum hemorrhage he uses hot vinegar.

Dr. Barker called attention to one point of importance in attempting to decide whether hot water is the best agent to use in a given case or not. The hot douche requires some time—ten or fifteen minutes—to check bleeding; in some cases a more prompt hæmostatic would be needed to save life. He mentioned a case of hemorrhage from laceration of the vagina which resisted hot water for half an hour, and one of cancer of the cervix where bleeding persisted in spite of the hot water. In the latter case he applied a compress dipped in Squibb's ergot, and a tampon, which stopped the bleeding.

Dr. Byford fully concurred in the conclusions expressed in the paper.

Dr. Campbell said that he was reminded that there are cases in which it is important to decide the greater appropriateness of one hæmostatic over another. In cases of post partum hemorrhage, anything that will stimulate the muscular fibres of the uterus to contract will stop the bleeding. In cancer it is different; here a styptic would be necessary. Iodine would be of no use in cancer, because it is not a styptic; but it is useful in post-partum hemorrhage, because it stimulates the uterus and causes contraction.

Dr. Smith said that with regard to Dr. Mann's case he would say that he had had a precisely similar case in which the hot water was used successfully. In order to get the desired effect, it is necessary to have the hot water reach the bleeding spot; if profuse, the bleeding may prevent the hot water from reaching the spot. In such cases it is necessary to elevate the hips of the patient, so that the blood may gravitate to the upper part of the body; then the bleeding becomes less, and the hot water acts better. He would not claim that there might not be cases in which it would be inapplicable, as no remedy in medicine can be used in all cases without exception. He simply called attention to the simplicity, convenience, and efficiency of hot water. In reply to Dr. Goodell, he thought that the principle was the same whether the hot water was used with vinegar or with any other agent, such as carbolic acid or Labarraque's solution.

With regard to having a more prompt hæmostatic, he would be very glad to get one, but he had never seen anything in the use of ergot to warrant its substitution for the hot water. In reply to Dr. Campbell, he would state that he had seen cases after labor where the uterus contracted firmly, but blood spurted away in a stream as large as a goose-quill, and it was stopped by hot water. He thought that this remedy, though perhaps not available on all occasions, is valuable, easily applied, and rarely fails to check hemorrhage.

SOME POINTS CONNECTED WITH DYSMENORRHŒA.

C. D. Palmer, M.D., of Cincinnati, said that dysmenorrhœa is a common affection, and troublesome to treat, and should therefore have its pathology well understood. He gave a brief review of the mechanical theory of Mackintosh, Simpson, Simes, and others, and stated that while obstructions undoubtedly exist and may give rise to painful menstruation, he believed this to be the case in comparatively rare cases. The objections to the mechanical theory of dysmenorrhœa are (1) the want of uniformity between the cause and effect, the same amount of obstruction giving rise to different symptoms in different cases. The most severe sufferings may attend a condition of the canal which admits the passage of a moderate-sized sound, or which may show no stenosis whatever. In those where the local obstruction is the greatest the symptoms are often less marked than others affected to a slight degree, and the pain may reach its climax without there being anything in the uterine canal to account for it. (2.) Constitutional treatment is more effective than local measures; chalybeate tonics and agents which increase the flow of blood relieve the pain rather than increase it (3.) The course of the menstrual blood may be as uninterrupted in a curved uterine canal as in a straight one, but congenital cases of flexion are attended by dysmenorrhœa, but similar conditions coming on in adult life rarely are. (4.) There are cases of dysmenorrhœa in which no fault of conformation can be detected in the uterus or any of its surroundings. On the other hand, atresia may exist without pain. From these and other considerations he concluded that the mechanical theory of dysmenorrhœa was not demonstrated.

Dysmenorrhœa is, therefore, a functional disorder of the uterus which is at its base a neurosis. It is especially due to bad inheritance, poor hygiene, and vicious methods of education.

In treatment, he recommended local measures to reduce the extreme sensitiveness of the uterine mucous membrane, such as dilatation by bougies, and various applications, also electricity. In addition, constitutional treatment is required by open-air exercise, good food, iron, arsenic, phosphorus, nux vomica quinine, etc. He believed that stenosis is more frequent at the outer than at the inner os, and this explains the greater frequency of barrenness than of dysmenorrhœa. It is easier for the menstrual fluid to escape than for the spermatic fluid to gain entrance. As in these cases the retention of the menstrual fluid may cause secondary changes, it is better to dilate early. He preferred dilatation by bougies to incision, which has been too much relied upon and has been overrated. Time has fixed the value of incision of the cervix, and has greatly limited its range of application.

DISCUSSION.

Dr. Chadwick agreed with the author of the paper; he had to a very large extent given up the idea of obstructive dysmenorrhœa. He rarely used incisions except in cases of constriction of the canal at the external os. The dysmenorrhœa of many women is due to spasmodic contraction of the uterus from peristaltic action of its muscles, from some local cause of irritation, such as catarrh, just as is seen in fissure of the anus; in others the disease is purely a neuralgia. When the neurotic element is strong he gives before each menstrual period bromide of sodium (gr. xx, three times a day), and during the attack he gives fluid extract of coca and ammonium chloride. He never gives such patients morphia.

He had not for many years met with a case in which dysmenorrhœa was due solely to flexure of the uterus, but he had found this condition coexisting, both being due to important nervous development.

Dr. Barker said that he fully concurred in the views of the author of the paper. He believed that the proportion of cases with dysmenorrhœa due to obstruction is very small. Some women suffer with dysmenorrhœa until they are married and bear children, but never after; in others this is not the case.

It is important to inquire what the pain is like. There are two forms of dysmenorrhœa; one is referable to the state of the uterus at the time; the other belongs to the ovaries, it is ovarian in its origin, and requires attention to them for its cure. We must recollect that menstruation involves two processes—first, rupture of a Graafian follicle, and, secondly, rupture of the capillaries in the uterine mucous membrane—one ovarian, the other uterine. Where the pain decidedly precedes the flow, it is ovarian; where it continues during the flow, it is uterine.

Every year he sees cases of young girls who come from the country to school in New York City to finish their studies. After three or four months they suffer with dysmenorrhœa, and the flow is scanty. Here the pain usually precedes the discharge, showing the effect of lowered vitality upon the ovaries.

In the treatment he most frequently employs lactate of iron (gr. iii-v, s. t. d.), generally associated with chlorate of potassium, which exerts a special effect upon the pelvic organs, commencing this about ten or twelve days before the menstrual period. The time to give it is when the patient shows symptoms of constitutional disturbance: she is irritable, nervous, languid, over-sensitive, has pain in the eyes, etc. In the interval he gives apiol, two capsules after each meal, which he regards as almost a specific. Where the patient has strong vitality, is robust, and shows too much ovarian excitement, he gives bromide of sodium between the principal meals and at bedtime. This class of cases is one which includes young widows, patients who never suffered from uterine trouble before or during marriage, but exhibit great ovarian excitement afterwards. Nothing can be found to explain it upon vaginal examination. The sodium bromide he prefers to the potassium salt, as it is less likely to cause an eruption upon the face, a matter of some moment to young women.

SECOND DAY.—MORNING SESSION

Gilman Kimball, M.D., of Lowell, Mass., delivered the annual address of the President, taking for his topic a "Biographical Sketch of Dr. Nathan Smith, of Vermont, the Founder of Dartmouth Medical College." He paid a generous tribute to the personal worth and professional attainments of Dr. Smith, who, in July, 1821, performed the second successful case of ovariotomy that had ever been done in this country. As he was not aware that McDowell had preceded him in the operation, it was entirely original with him, and in point of merit he stands equal to McDowell, and should have equal honors.

Prof. Gross, being invited to make some remarks, said that, nearly thirteen years having elapsed between the operation of McDowell and that of Smith, the latter operator had abundant time to have learned of the former operation, and should have known of it, as an account had been published in 1816. He thought that one of the greatest of Dr. Smith's achievements was the bringing into the world of Dr. Nathan R. Smith, of Baltimore.

Dr. Kimball explained that intercourse between the East and the West was difficult and slow at the period to which he had referred, and it was possible that Dr. Smith knew nothing of the earlier operation, and the speaker fully believed that he did know nothing of it.

A RARE FORM OF ABDOMINAL TUMOR.

Dr. Thad. A. Reamy described three cases of a rare form of abdominal tumor. Upon examination they were discovered to be cystic, containing bloody fluid in two cases; the other case died, and at the post-mortem sarcoma of the omentum was discovered. This raised the question whether or not the other cases, which now enjoy good health, would have become sarcomatous if not tapped, or whether the other one had degenerated into a sarcoma. He presented the specimens taken from this patient, from which it would appear that it had been originally a cyst of the omentum, in the walls of which sarcomatous tumors had developed. The patient had died from rupture of this cyst into the peritoneal cavity, causing peritonitis.

DISCUSSION.

Dr. Sutton, of Pittsburg, concurred in the statement of the rarity of these tumors. He did not think it possible before the abdomen is opened to decide whether an omental tumor is carcinoma or sarcoma. He considered it bad treatment to plunge a trocar into the collection, and advocated abdominal section, but thought there was little hope of prolonging the life of the patient if the growth be either carcinoma or sarcoma; one is as malignant as the other. He believed that when the exploratory incision reveals a malignant growth the abdomen should be closed and the operation abandoned.

Dr. Campbell said, that as omental growths are usually pedunculated he thought it worth the risk to remove such tumors after the exploratory incision had been made and there were no extensive adhesions.

Dr. Reamy, in closing, said that he could not quite agree with Dr. Sutton as to the impropriety of tapping, and called attention to the fact that the two which were tapped recovered. He said it was a curious fact that in the patient with the sarcomatous growth no cachexia was present; the other two cases could not have been sarcomatous, because they recovered.

CONGENITAL FISSURE OF THE FEMALE URETHRA WITH EXSTROPHY OF THE BLADDER.

Henry F. Campbell, M.D., of Augusta, Georgia, presented a paper in which he described a case of congenital fissure of the urethra in a little girl two years of age, with exstrophy of the bladder, which appeared as a vascular tumor in front of the urethra. The upper wall of the urethra presented a flattened appearance; there was but very little trace of a lateral border. The other portions of the vulva were normal, and there was no deficiency in the pubic bones. He regarded the case as analogous to the condition of hypospadias in the male. He inquired as to the proper time for operation, and whether it would not be better to wait for the development of the parts at puberty. He feared that an immediate operation might interfere with the development of the parts, by removing portions of tissue which were susceptible of development.

Dr. B. B. Brown, of Baltimore, described a similar case, complicated by the presence of a stone in the ureter. The child died before operation.

A STUDY OF THE ETIOLOGY OF PERINEAL LACERATION, WITH A NEW METHOD FOR ITS PROPER REPAIR.

T. A. Emmet, M.D., of New York, after referring to the fact that he had devoted considerable attention for a number of years to the subject of perineal laceration, said that he was convinced that its effects had been much overestimated. The suffering ascribed to laceration of the perineum is not proportionate to the extent of the lesion, and some of the severest cases are entirely unaccompanied by symptoms. He directed special attention to the anatomy of the pelvic fascia, showing its attachment to the pelvic organs and to the inlet of the pelvis, and declared that these organs are held in place by this fascia, which is continued downward as a sheath for the vagina. During labor this fascia may be injured or lacerated; when this condition occurs, perineal laceration often follows in the descent of the head and shoulders of a child. Even in cases without external laceration, relaxation of the vagina occurs, and the posterior wall falls away from the anterior one. This rolling out of the mouth of the vagina, as if the drawing-string had been broken, exaggerates the appearance of laceration of the perineum, making it seem more extensive and important than it really is. The operation which he proposed had for its object the shortening of the posterior wall of the vagina, so as to restore to it its relation to the anterior wall. This object is attained by making two crescentic lines of denudation transversely across the vagina, and uniting them by a line of sutures,which after the operation are hidden entirely within the vagina. The result is that the perineum is drawn upward toward the pubes, and any laceration existing in it may be disregarded, or it may be united by an interrupted suture. He maintained that we might leave out of consideration, in performing the operation, everything in regard to the external organs outside the line of hymen. His object was to call special attention to the rôle which the fascia plays in supporting the pelvic organs, and to the fact that the lacerated perineum has little or nothing to do with the symptoms complained of.

AFTERNOON SESSION.

Dr. Emmet gave a résumé of his paper read at the morning session.

Dr. Reamy said the operation described seemed an admirable one for a particular class of cases, the number of which he believed to be limited. He did not regard it as a substitute for the operation for lacerated perineum.

Dr. F. P. Foster fully endorsed the statements of Dr. Emmet with regard to the function of a perineum, and denied that it had anything whatever to do with supporting the uterus under ordinary circumstances.

Dr. Sutton said that he had understood Dr. Emmet to deny the existence of the perineal body. He could not believe that he meant to say that there is no such body existing between the rectum and the vagina, which is shown in frozen sections. He believed that the uterus was supported by all the surrounding structures.

Dr. Emmet, in closing the discussion, said that he would not deny the existence of the perineum, but would deny the existence of a body anything like that which operators had attempted to build up, called the perineal body. He thought the members would understand his operation better when they had an opportunity of reading the paper.

THE MANAGEMENT OF ACCIDENTAL PUNCTURE AND OTHER INJURIES OF THE GRAVID UTERUS AS A COMPLICATION OF LAPAROTOMY.

C. C. Lee, M.D., of New York, called attention to this grave complication of laparotomy, and gave the details of seven cases, all he could find in medical literature, including one that had occurred in his own practice. From them he deduced the following conclusions:

1. The pregnant womb may be punctured or otherwise wounded during laparotomy without necessarily causing abortion.
2. Both from *a priori* and clinical evidence miscarriage seems to depend upon injury of the uterine contents, not of the womb itself, however severe.
3. If the former has certainly occurred, Cæsarean section is indicated and should be promptly performed. In this case the utmost care must be subsequently taken to secure thorough drainage from the uterine cavity.
4. If the uterine walls alone are injured, the wound is to be treated on general principles. If a deep puncture or incision, it must be sutured with the minutest care, with exact coaptation of the edges. For this purpose fine silk sutures, ren-

dered antiseptic, are the best. If a nick or superficial puncture, it must not be ligated, for ligatures cut quickly through uterine tissue; if too small to be sutured, the bleeding points must be lightly touched with the thermo-cautery until oozing has ceased. Good surgery and the dictates of humanity alike demand that under such circumstances a chance of survival be given the child as well as the mother.

DISCUSSION.

Dr. Byford, of Chicago, said that before hearing this paper he had concluded that it would always be proper when the uterus had been accidentally wounded in laparotomy to open the organ and remove its contents, but after hearing Dr. Lee's case he believed there might be exceptions to this rule, especially in the early stages of pregnancy; in the later months the traction of the muscular fibres is so great that he felt sure the stitches would tear out. In such a case he should be inclined to remove the contents of the uterus, even if the wound had not involved its whole thickness.

Remarks were also made by Dr. Wilson, of Baltimore, Dr. Garrigues, of New York, and by Dr. Lee in conclusion.

IS EXTIRPATION OF THE CANCEROUS UTERUS A JUSTIFIABLE OPERATION?

A. Reeves Jackson, M.D., of Chicago, said that he proposed to discuss this question: In view of known facts, is it justifiable to extirpate the uterus for carcinomatous disease? Reviewing the history and the statistics of the operation, he concluded that extirpation of the uterus for cancer does not prolong but destroys life. By the abdominal operation there was a mortality of 72.5 per cent.; by the vaginal operation, 28 per cent. His conclusions are as follows:

1. Diagnosis of uterine cancer cannot be made sufficiently early to insure its complete removal by extirpation of the organ.
2. When the diagnosis can be established there is no reasonable hope of effecting a radical cure, and other methods of treatment offer far less danger than excision of the entire organ, and are equally effectual in the amelioration of suffering, in retarding the progress of the disease, and in prolonging life.
3. Extirpation of the cancerous uterus is a highly dangerous operation, and neither lessens suffering, except in those whom it kills, nor gives a reasonable hope of a cure in those who recover. Hence, as it is lacking in all the essentials of a beneficial operative procedure, it should be excluded from modern surgery.

DISCUSSION.

Dr. Van de Warker, of Syracuse, endorsed the statements just made, and described his treatment of progressive destruction and sloughing of the uterus by chloride of zinc. He had operated on eight cases, three of which had died.

Dr. Emmet approved the sentiments of the paper, and reported one unsuccessful case. If the operation is ever done, it should be by the vagina, and should be restricted to removing the uterus for sarcoma.

Dr. Baker, of Boston, opposed the conclusions of the lecturer, and said that he had operated on at least thirty cases by the vaginal method, and he could recall six cases of at least five years' standing which have absolutely recovered. The cases in which total extirpation is advisable are extremely rare, and comprise only those which begin in the fundus of the uterus.

Dr. Palmer, of Cincinnati, said that the operation in some cases is clearly unjustifiable. In others it may be justifiable. In the latter he would include only those cases of sarcoma starting in the uterine body, as it is usually impossible to determine whether the disease has already extended beyond the uterus or not. He made it a rule to decline to operate.

Dr. Sutton said that the removal of the uterus by the vagina is not as fatal as ordinary ovariotomy. Schroeder's mortality was only one in thirteen. He then described the details of his vaginal operation for the removal of the uterus. The opening in the vault of the vagina is not sewed up after the operation, but a large drainage-tube is passed through the vagina into the peritoneal cavity, and the vagina packed with cotton and iodoform. This drainage-tube is not used by Martin, who simply uses the antiseptic tampon.

Dr. Jackson closed the discussion by reaffirming his conclusions.

A paper entitled "A New Method of Operating for Fistula in Ano," by Edward W. Jenks, M.D., of Chicago, was read by title.

THIRD DAY.—MORNING SESSION.

The first paper read was one entitled "Menstruation after Extirpation of the Ovaries," by Henry F. Campbell, M.D., of Augusta, Georgia. Dr. Campbell said that he would not question the influence of the ovaries over the function of normal menstruation; but cases have occurred in which menstruation persisted after their removal. This return of menstruation after double ovariotomy has been attributed to habit, to plethora, and more recently to the fact that in removing the ovaries there had not been taken away the portion which is the real inciter to the menstrual nisus—the Fallopian tubes. Without denying any of these propositions, he wished to advance an explanation which had not been hitherto noticed, or, at least, given its full value. On account of the prominent position occupied by the ovaries in the female genital apparatus, it might be reasonably anticipated that their removal might have some influence upon the function of menstruation—that it might cease. We know the influence that the mammary gland exerts upon menstruation, and that mental emotions also influence this process. It is true that this is in the presence of the ovaries; but in the absence of these organs can we call into existence anything which might explain the influence of these remote inciter points upon the congestion of the uterus and menstruation? For it is possible from the influence upon the uterus of these inciters to menstruation, that even after removal of the ovaries the menstrual discharge might continue. He cited a case of a young girl seven to eight years old, in whom menstruation followed the mumps, from metastasis to the ovaries. The menstrual discharge occurred for several months, and then gradually subsided. She changed naturally at the age of fifteen. In another child menstruation appeared temporarily as a result of an abscess of the mammary gland; the menstrual nisus afterwards disappeared, to return normally at the physiological period. He could only explain these cases on the supposition of a communication through the nervous system, and for certain reasons he located in the lumbar region of the spinal cord a nervous centre controlling ovulation and periodical uterine congestion. He mentioned a case of amenorrhœa and sterility which was cured by putting a child to her breast to nurse; and another where a grandmother from putting a child to the breast began to secrete milk, and nursed the child for months. The fact that a man can feel pains in his foot and toes after amputation of the leg was cited to prove that the centre in the spinal cord may remain active even after it is cut off from the organ to which it belongs.

The object of Battey's operation is to nullify sexuality; but it does not do so entirely; it might if performed before development had taken place, but after the organs have undergone periodical congestion for years the centre is normally developed, and, accustomed to respond to the irritation of healthy or diseased ovaries, may continue its action upon the uterus even after the ovaries themselves have been removed. That is to say, through the action of the nervous centre, probably situated in the lumbar enlargement of the spinal cord, the uterus may continue its function of menstruation even after the removal of the normal inciters to menstruation, which he admitted to be the ovaries.

DISCUSSION.

Dr. William Goodell said that the return of menstrual periods after oöphorectomy is not a common occurrence, but in the cases in which it was present this might be the probable explanation. He had noticed a sanguinolent discharge on the third or fourth day after removal of the ovaries, which he attributed to the irritation of the ligature.

He mentioned a case which had a bloody discharge coming on several months after oöphorectomy, and he found it due to sarcoma of the uterus. Where menstrual discharges regularly occur it is possible that there is a third ovary present, as suggested by Koeberle. Another explanation is that possibly some of the ovarian stroma had been left behind, as it is difficult in some cases with adhesions to separate the ovary entirely without tearing. He thought that the paper should have contained some statistics.

Dr. Emmet reported a case of double ovariotomy where he had also removed both Fallopian tubes. The patient since then has menstruated thirteen times. The only difference noticed was that her periods were not quite so long as they were previously.

Dr. Garrigues mentioned a case of a young woman who after removal of both ovaries married and had a child. Here there must have been a third ovary present.

Dr. Thomas said that Dr. Campbell's explanation might be possible in some cases; he was not prepared to deny or to accept it. With regard to the frequency of menstruation after operations, he said that he had performed double ovariotomy in fifty or sixty cases, and the impression upon his mind was this: where the ovaries are present, menstruation is the rule; where they have been removed, menstruation is the exception. After their removal the uterus may pass through some periods of congestion and metrostaxis, on the same principle as a sturgeon's heart will beat after removal from its body—by a sort of registering action, as Professor Draper called it. He had performed both Battey's and Tait's operation, and believed the latter less likely to be followed by this spurious menstruation, since it removes more tissue. He referred to an operation in which he removed two diseased ovaries, and found a third normal, which he allowed to remain. He does not believe that the Fallopian tubes have anything to do with inciting to menstruation; he therefore had adopted the rule to remove the ovaries if they are diseased, but not to remove the Fallopian tubes unless they also are diseased.

Dr. Byford said that in giving an explanation of the persistence of menstruation after ovariotomy, very much depends upon what is called menstruation. If ovulation is menstruation, then menstruation can occur only when ovarian stroma is present; if a bloody discharge from the uterus is menstruation, it may occur, under certain circumstances, after the ovaries have been removed.

Dr. Mann mentioned disease of the uterus among causes of spurious menstruation after double ovariotomy; in one he had found cancer of the cervix.

Dr. Campbell said that he had examined bodies for forty years, and never saw a supplementary ovary, but did not deny its possibility. He said that habit does explain anything except nervous action: the sturgeon's heart beats after removal on account of its contained ganglia. He had not denied that the ovaries are the natural inciters to menstruation, but he had endeavored to pursue the subject a little deeper in order to show how they bring it about.

REMARKS ON CHRONIC ABSCESS OF THE PELVIS.

W. H. Byford, M.D., of Chicago, read a paper in which he discussed the pathology and treatment of certain forms of chronic abscess within the pelvis. He traced them from a bloody effusion, generally after confinement, the hæmatocele becoming purulent, and subsequently either discharging or being formed into a solid fibroid mass by absorption of its fluid contents. In old abscesses he had found tag-like processes depending from the interior of the cyst, which is lined by pyogenic membrane, and he advocated their removal by the curette after evacuating the cyst. With regard to method of opening, he advocated free opening into the vagina, and the use of antiseptic washes. The aspirator needle may be inserted into the abscess, and a bistoury run along it as a guide, an opening being made large enough to admit three or four fingers. He looked upon the interior of the abscess as being similar in structure to the surface of an external ulcer, as it may have healthy or flabby and fungoid granulations, and may give rise to healthy or unhealthy pus. In the course of time the granulations become converted into cicatricial tissue. He referred to several cases illustrating the principles of treatment.

DISCUSSION.

Dr. Thomas thought that the author of the paper had rendered a good service in studying the changes in the lining membrane. There is one important point about opening these abscesses. Some years ago Dr. Brickell, of New Orleans, recommended the trocar in seeking after the pus. Dr. Mundé still more recently advocated the aspirator; Dr. Lyman has recommended the same. In his own opinion, there is no more dangerous practice in gynecology than to seek for these abscesses, when they are located high up, with the trocar or aspirator; this should only be done after the diagnosis has been made by manipulation and other means. He had employed the aspirator himself in diagnosis, but not as a method of treatment, and thought it a very bad method. The opening should be a free one. In order to keep the opening from contracting, he had a glass tube with a flange made to insert into the opening, so that he could use daily injections of carbolic acid and iodine.

He mentioned a class of cases where the pelvis seems filled with an abscess, the uterus is immovable, and the tissues are hard as a board. In these he had adopted the method of Tait in making an incision along Poupart's ligament into the abscess and cleaning it out and using frequent injections. With reference to the curette, he had had no experience with it in these cases.

Dr. Goodell was pleased with the paper and recommendations of Dr. Byford as to the curette. He preferred permanganate of potassium for the injections. He did not regard the aspirator as being so dangerous as the last speaker did; he had used it with great relief when the pus was situated high up. He had also performed Tait's operation, carrying a drainage-tube through it into the vagina.

Dr. Thomas, in reply to a question about the performance of the operation in a case in a state of great prostration, said the operation was a desperate one, but the patient's case even more desperate; it might offer the only chance of recovery.

Dr. Sutton saw Esmarch, of Kiel, scrape out abscesses in all parts of the body, and thought it the accepted treatment abroad.

Dr. Campbell said that he was not familiar with the practice of curetting abscesses, but after evacuation he sometimes packed them with linen, in order to encourage granulation. He urged the importance of constitutional measures, and particularly of the tartrate of iron. For injections he preferred Labarraque's solution.

Dr. Byford, in closing, said that he had not presented anything like a complete treatise on pelvic abscess, but had simply tried to call attention to one form, and to bring its treatment before the Society for discussion. In the cases mentioned by Dr. Thomas he had several times carried out the treatment mentioned, by carrying a drainage-tube into the vagina.

ERGOT: THE USE AND ABUSE OF THIS DANGEROUS DRUG.

George J. Engelmann, M.D., of St. Louis, made some remarks upon ergot, calling attention to its powerful action, and to the danger of its abuse by nurses, midwives, and the public generally. He said that he never had any real use for this drug; its action can never be relied upon with certainty. The only condition in which it might be of use is in post-partum hemorrhage, and here we have safer and more efficient remedies. He would like to see the use of ergot restricted to the non-pregnant womb. There are no circumstances in which it is necessary to give it, and few in which it is desirable to give it in this condition. It is only in the third stage of labor that the constant contraction of the uterus is desirable; but even here damage may be done by the use of ergot—the placenta may be incarcerated, and he would never advise its use till the uterus is emptied. Some of the dangers of its use are ruptures of the uterus, lacerations of the cervix, vagina, or perineum, besides possible injuries to the child. The worst feature of it is that the injuries produced by it are usually not noticed at the time, and the physician who gives it is generally in ignorance of the damage that is done, which is only discovered long after by the consultant, who may learn, perhaps only by accident, that ergot has been used.

DISCUSSION.

Dr. Johnson said that he had read a paper on the same subject last winter, condemning the use of ergot in parturition; but in the discussion Dr. Barker had directed attention to the fact that it might be useful in cases of threatened hemorrhage where chloroform has been given. He did not agree with the author of this paper as to the reckless use of it by the profession. He did not know that any intelligent physician would give it before the last stage of labor.

Dr. Campbell said that in 1836 or 1837 Dr. Milton Anthony, a Southern physician, had written some stringent articles upon the use of ergot in labor, limiting its use, and advising that it should never be given before full dilatation of the os, and rarely before the expulsion of the child. He said this had been his own practice; he would never give it for post-partum hemorrhage, but in order to prevent post-partum hemorrhage.

Dr. A. H. Smith thought ergot in the hands of the general practitioner an unmitigated evil. It is always calculated to do harm, and often does harm. He thought the tetanic contraction produced by ergot was unnatural and undesirable. The contractions of the uterus should be intermittent; therefore everyone who gives ergot to produce expulsion of the contents of the uterus violates nature. In the early stage of labor it may produce rupture of the uterus, and in the later stage it is unnecessary. In conclusion, he denied that chloroform produces relaxation of the uterus or predisposes to post-partum hemorrhage.

Dr. Campbell said that he had never given ether in a case of labor in his life; he had always used chloroform; but he still thought it disposed a little towards the relaxation of the uterus.

Dr. Ellwood Wilson said that he had used chloroform for years in his practice, but had been obliged to give it up on account of its tendency to produce post-partum hemorrhage without any particular relaxation of the uterus. He had seen the same from the long-continued use of ether. He had been surprised to hear that ergot should be abolished. He believed that no man should approach a case of placenta prævia without ergot. In thirty-two cases in his own practice he had used it in order to obtain the very tonic contraction which it had been claimed it exerts. He had also been surprised to hear that it had no value in post-partum hemorrhage. He considered it of immense value in post-partum hemorrhage. The difficulty usually is that ergot is given too late and in too large quantities. He said that in cases of long-delayed labor followed by hemorrhage, after its administration the patient usually called attention to a feeling of heat, at the same time the uterus contracts and the bleeding ceases. He regarded this as a very important use of ergot. A dose of half a teaspoonful of the fluid extract will produce its impression in about ten minutes, and after the expulsion of the placenta will produce tonic contraction of the uterus. He said he thought it bad practice to throw water, carbolized or non-carbolized, into the recently-deliverd uterus. As regards the use of ergot after abortion, he had been thus employing it all his lifetime, and had never experienced any great difficulty in treatment except in one case which he had unfortunately tamponed. The next day she had peritonitis, and died in thirty-six hours.

Dr. Engelmann feared that he had been misunderstood. He had not meant to discuss the limits of the possible use of ergot when used in scientific medicine and in skilful hands, but to assert his belief, founded on experience, that it is a dangerous drug and does a great deal of mischief as commonly employed. It is a great factor in producing uterine disease. He did not think it necessary even in post-partum hemorrhage, because there are better and safer means of treatment, and these means should be more generally employed.

A paper entitled "A Theory to Explain the Relaxation of the Vagina and Perineum during Labor," by Dr. James R. Chadwick, of Boston, was read by title, Dr. Chadwick having been called away.

The hour for adjournment having arrived, the programme was declared closed.

Dr. William Goodell offered a series of complimentary resolutions to Dr. Chadwick, the former secretary and founder of the Society, which were unanimously adopted.

On motion, similar resolutions were adopted with regard to Dr. Mundé, who had been for several years the treasurer of the Society.

The newly-elected President, Dr. Albert H. Smith, upon taking his seat returned thanks for the honor conferred, and, on motion, the Society was adjourned.

OFFICERS FOR THE ENSUING YEAR.

President.—Albert H. Smith, Philadelphia.

Vice-Presidents.—James R. Chadwick, Boston; Samuel C. Busey, Washington.

Secretary.—Frank P. Foster, New York.

Treasurer.—Matthew D. Mann, Buffalo.

Members of Council.—T. G. Thomas, Fordyce Barker, New York; T. A. Reamy, Cincinnati; R. S. Sutton, Pittsburg; R. B. Maury, Memphis.

The Society then adjourned, to meet on the third Tuesday of September, 1884, in Chicago, Ill.—*Medical Times.*

SANITARY DEPARTMENT.

An Address on Drainage. Delivered at the Annual Meeting of the South Midland Branch. By R. H. Kinsey, M.R.C.S., Surgeon to the Bedford General Infirmary; President of the Branch.

A subject to which I must allude is that of drainage. We cannot shut our eyes to the numerous evils attendant on faulty systems and faulty construction. Not only are typhoid fever, diphtheria, erysipelas, and other acute diseases, intimately connected with the contamination of water, or the escape of gas from sewers, but also many evils of lesser degree. Parkes tells us that, when the air of sewers escapes into houses, and especially into bedrooms, health is greatly impaired. Anæmia results from the imperfect aëration of the blood, and disorders of the digestive organs become prevalent. Children lose appetite, strength, and color; older persons suffer from malaise and feverishness. Coughs, sore-throats, headaches, vomiting, diarrhœa, and colic are frequent, and those unsatisfactory and anomalous conditions to which it is difficult to assign a name.

Now, there are many unsolved problems in sanitary engineering; many questions as to dry earth or water, as to currents of air in shafts, as to methods of ventilation, as to different kinds of traps; but two points are certain. We are all agreed (1) that it is of the highest importance that all drain and soil-pipes should be outside the house; and (2) that the inside trap, which is in connection with the soil-pipe, should be absolutely sound, and free from defect. Fortunately, there is a very simple plan by which the slightest leakage may be detected. A small quantity of some strong-smelling volatile substance—such as half an ounce of oil of peppermint or some paraffine—introduced into some part of the pipe or drain outside the house, poured down the ventilating shaft, if there be one, followed by a gallon or two of boiling water, will, by making its presence known inside the house, lead to the detection of any flaw which may exist. Though perfectly simple, this test requires to be applied with care. There must be no other way of entrance for it into the house, except through the pipe—*i.e.*, all doors and windows must be carefully closed, and the person applying the test must not himself enter the house; the detection must be left to somebody else within.

Those who would attach less importance to the injurious influence of sewer-gas, who are inclined to cite instances in which it has been escaping and has been inhaled, and yet the evils spoken of have not resulted, may be reminded that, in our search after causes, we must often expect them to be complex; that it may take more than one factor to bring about an epidemic; and that sewer-gas is a very important one among them. Others may be peculiar states of the atmosphere, dampness of soil and low situations.

Under no circumstances can the presence of sewer-gas be safely disregarded; but, whenever there are any permanently unfavorable conditions—conditions which depress health, but which cannot be removed—it behoves medical men, and all others concerned, to be especially on the alert to guard against all those causes which are remediable, such as escape of sewer-gas into houses, the want of frequent flushing and thorough ventilation of mains, scanty water-supply, or the use of water liable to contamination.

That we may not conclude that there is no dangerous escape of sewer-gas into a house because we are not aware of any offensive smell arising from it, may be inferred from an experiment by M. Gustave le Bon, who found that the gases arising from decomposing animal matter might be more noxious when less pungent. He mixed some hashed meat with water, and allowed it to putrefy; he then placed a frog in an enclosed vessel with it. When putrefaction began, the smell was most fœtid, but the frog was uninjured. At this time, the liquid swarmed with bacteria, and, injected under the skin of an animal, proved to be a most virulent poison. After two months the liquid was neither so fœtid nor so virulent when subcutaneously injected; but it proved rapidly fatal to an animal breathing the gas which emanated from it.

Captain Galton, in a paper read before the Society of Arts (*Times*, April 27th, 1883), says: "Improvements effected in sanitary administration and in the habits of the people have reduced the mortality about 2 per 1,000, taking into account the density of population, which, with unchanged hygienic conditions, would have increased the mortality. This represented an annual saving of about 48,000 lives in England and Wales, excluding London. . . . In thirty years the mean age at death had been raised from 28.4 to 29.6." He went on to say: "If we could introduce into our towns generally the mortality of the healthy districts, we should diminish our death-rate by nearly one-fifth;" and he pointed out how enormous would be the amount of money directly saved from sickness and funerals if all known insanitary conditions were removed.

Now, when we find the evils spoken of, which directly affect the physical health of those for whom we make ourselves responsible, and which, from their depressing influences, almost as directly affect their moral condition, and so often their domestic happiness; and when we know, as Dr. Quain so forcibly tells us, that "our end and aim should be, first, to discover the cause or causes on which disease depends, and to counteract them, if practicable; and, secondly, to endeavor by every means to restore to health the functions of the body, and, with that object, to guide and assist Nature, but never to thwart her operations"—if we believe this—where, I would ask, is our self-respect, if we do not search out the causes, or, suspecting them, do not set ourselves to remove them? How do we stand in relation to our patients when called in to assist them in their distress and in their dependence on us, if we allow them to continue to suffer in person and in pocket while professing to heal them? While, year by year, our knowledge of medicines is more exact and definite—of their actions, more physiological and scientific—at the same time, our view of medicine is larger and broader. It is not enough, by the administration of an appropriate remedy, to seek to cure; we must, by foresight and circumspection, seek to prevent. This we shall not thoroughly do until we come to realize, in spite of the slight apparent contradiction, that to study the best interests of the patient and of the public is eventually to secure our own best interests and those of our profession.

When we consider how vast are the interests committed to the medical profession, how intimately the well-being of the nation is connected with the faithful discharge of our duty; that the health of the army and navy is entrusted to our care; that we have a part in the selection of all candidates for civil posts; that all hospitals, dispensaries, workhouses, asylums and prisons are virtually directed by us; and, finally, when we consider the intimate relation in which we stand to our private patients, how often the medical man's advice is sought, not only on questions of health and disease, but in questions of domestic and social difficulty, in questions of education, in legislative questions of national importance; when we feel how often counsel and assistance are called for by all, from the highest to the lowest—then we feel the importance of a great association such as the British Medical, which endeavors to stimulate in each of us our sense of duty and responsibility, which keeps us together with unity of purpose, and encourages us with mutual help to work for a common object. While thankful to belong to so noble a profession, and for the advantages of so great an association, let us each for ourselves remember that it is not by the pursuit of wealth, nor of social distinction, not of personal power nor of exaltation, but it is by a self-sacrificing spirit and self-sacrificing labor that our profession seeks to realize its lofty ideal;

and that it must be by largeness of heart and breadth and earnestness of purpose that we must each carry out the work confided to us, and thus, humbly and at infinite distance, shall we be following in the steps of Him who "went about doing good."

Subsoil Water and Typhoid Fever.—Some researches have lately been made by M. Tessier, of Lyons, with a view to test the strength of Pettenkofer's position. As our reader knows, Pettenkofer believes that there is a close relationship between the fall in the level of the subsoil water and the rise in the curve indicating the rate of mortality from enteric fever and cholera. M. Tessier does not confirm the hypothesis of Pettenkofer. It was shown that the level of the ground water fell and rose with the waters of the Rhone. The other factor was obtained from the statistics of the hospital at Lyons. From a comparison of the curves indicating the amount of ground water and the death-rate from enteric fever it came out that the latter was directly proportional to the former. On the other hand, the investigation of three hundred to four hundred cases of typhoid fever has allowed Tessier to establish the fact that the sufferers had drunk of the water of the (surface) wells, and that those inhabitants who used water directly from the Rhone had been spared the disease.—*Lancet.*

Danger Lurking in Soda-Water.—The public analysts of Montreal and Toronto, Drs. Edwards and Ellis, have been examining samples of soda-water, and report that in a majority of cases lead, and sometimes copper, is present. Dr. Edwards examined twelve samples purchased in Montreal and found lead or copper in ten of them. Five contained both lead and copper, and five contained lead only. In some samples only "traces" of the metals were found, while in others the water was "largely impregnated" with one or both of the metals. Dr. Ellis, in twelve samples of Toronto soda-water found only three which were free from lead. No mention is made of the presence of copper. The quantity of lead varied from .07 of a grain to .05 of a grain to the gallon, the average of nine samples being .32 of a grain. All of the above samples were taken from fountain cisterns, bottled soda-water being invariably found free from metallic impurities. —*Sanitary Engineer.*

Ventilation of Sewers.—M. Wurtz, of Paris, has recently made a series of analytical tests with the object of determining the effects produced by the free admission of air into sewers, or, in other words, by thorough ventilation. The results of these experiments, which are epitomized by the *Medical News,* are important, inasmuch as they reveal the fact that the free circulation of air in sewers acts beneficially, not only by diluting and dispersing sewer gases, but also by destroying them chemically.

Mr. Eassie has described the manner in which these changes take place in the sewers, as demonstrated by M. Wurtz. He says that when the motion of the waters renews the surfaces, bringing them incessantly in contact with oxygen, when there is a free current of air in the sewers, the sulphuretted hydrogen becomes readily oxidized,and inodorous, non-volatile sulphate of ammonia are formed. This reaction is rendered more energetic by moisture, which is always present in the air of sewers, and is deposited by the condensation of steam against the brickwork and the walls of the water-mains, as well as of all the other pipes which are placed inside the Paris sewers. These large humid surfaces hold in a state of solution such portions of the highly soluble gases as may not have undergone a chemical change, and thereby prevent their expulsion into the outer air. On the other hand, however, when the ingress of air into the sewers was stopped; when the water, on becoming stagnant, discontinued the process of multiplying its surfaces of contact with the oxygen; not only did the sulphuretted hydrogen ease taking up oxygen to transform itself into sulphates, but the sulphates themselves, which had previously been formed, would be resolved by the organic matter in course of decomposition. This organic matter, depriving the sulphates of their oxygen, would reduce them to sulphites or sulphuretted hydrogen, and then would follow a black settlement, an evolution of bubbles and layers of slimy froth.

As to the effect of free ventilation upon the minute morbific organisms which are supposed to infest sewer-air, and which all efforts have thus far failed to isolate, little can be said from the standpoint of experimental knowledge; but it seems reasonable to believe that these subtle organic elements, as well as the gaseous constituent of sewer-air, are oxidized in part and dispersed by the free admission of atmospheric air; and that there is less chance for their development, concentration, and transportation into the appartments of our dwellings, through the channels of sewer connections, under the conditions of free ventilation above mentioned, than when the sewers are trapped and hermetically sealed, and direct communication with the outer air is, in this manner, prevented.—*Medical Age.*

WARING'S SYSTEM OF SEWERAGE.—REPORT OF THE COMMITTEE OF THE CITY COUNCIL OF DUBUQUE, IOWA.—The following extract of the report of the sewerage committee in favor of the adoption of Waring's system for the sewage of Dubuque is of interest to the people of Newport, as the latest official account of the working of that system in Memphis, after three years' practical operations:

In considering what method of drainage is the best for Dubuque, we have two systems to chose from, viz., the combined and the separate. The combined is that which provides for storm water and house sewage by a single system of sewers. The separate system provides two sets of sewers, one of large capacity for storm water alone, and the other devoted to sewage proper, including the contents of privies, solid and liquid, kitchen slops, the waste from bath tubs, laundries, manufactories, etc. The latter system, generally known as the Waring system, has had the special attention of your committee, and in our opinion is the cheapest, most practicable, and in every respect, as we are now situated, the best adapted to our present wants and requirements. For the carrying off of storm water, Dubuque is already tolerably well provided except in cases of excessive rains, and in some few localities.

In the Waring system, the drains are usually constructed of tile pipe, of comparatively small capacity. The smaller the pipe the better, so that it be sufficient to carry the sewage. No space is left for sewer-gas, and the sewage matter is carried off in a more rapid current and with less waste of water; An essential part of this system is the use of the automatic flush tanks, which are placed at the head of every lateral pipe and are filled by a gradual inflow of water, and when filled, at certain regulated intervals, to a certain height, are suddenly discharged into the pipe, thus creating a rapid current, sweeping away its contents and preventing any accumulation. By means of frequent man-holes opening into the drains, the locality of any obstruction is readily ascertained, and by an ingenious method the obstructive matter easily and cheaply removed.

As the Waring system, in its adaptation to the drainage of cities, is comparatively of recent origin, and until within a very few years regarded as an experiment, your committee, before recommending its adoption in Dubuque, desired to avail themselves of the experience of other cities, where it has been brought into operation. If there were any defects in the system, or in the manner of applying or constructing it, or any improvements to be made, we wished to find them out from those who had gained wisdom on the subject from actual use and observation. At Memphis, Tennessee, the system has probably had a more perfect trial than in any other city.

While there the committee and city engineer made a very careful and exhaustive examination of the system and its workings. The city engineer, Major Miles Meriweather, and his assistants afforded us every facility for the investigation, and kindly gave us the fullest explanation on every point. The information thus derived as to the working of the system has been of the greatest benefit to the members of the committee, in enabling them to fully understand and gain a thorough insight into the subject.

The result of the examination into the sewage system of Memphis has satisfied your committee that it is, beyond all question, the proper system for Dubuque. Two points on which the committee were previously in doubt, to wit: whether the flush tanks could be used in so cold a climate as ours, and the practicability of keeping the sewer pipes clear of obstruction without great expense, were both settled to our satisfaction.

At Memphis, as in Dubuque, there were many persons who bitterly oppose any improvement, and who at first consistently and strongly contested the adoption of a sewerage system, but at the present time, so far as your committee could ascertain, all had come to be pleased with its workings, and were loud in its praise. The only fault, as stated by the engineer, Major Meriweather, is one of construction, and is not serious. Although sufficient for present use, the main sewer, which is 15 inches in diameter, was built too small, and will have to be enlarged before long. The lateral pipes leading to the main sewer are six and eight inches in diameter. The pipes leading from the private houses and premises are four inches in diameter. The open end of the four-inch pipe is carried above the roof of each building, thus furnishing an escape for any sewer-gas that may be created in the pipes. All kitchen slops and the contents of every privy are carried away in the pipes. Of course no garbage is allowed to go into the pipes, but is required to be otherwise removed daily. By the rigid enforcement of these regulations all accumulations of filth and unpleasant odors, and reeking miasmatic exhalations from the soil which usually pervade the back premises and alleys in other cities, are there wholly banished. Nothing is left to breed malarial disease, and in all human probability Memphis will hereafter be a healthy city, and never again have cause to fear the breaking out of the dread pestilence which a few years ago desolated her streets.

In this report, which is intended as preliminary, it was not proposed to go into details as to the probable expense of adopting the Waring system of sewerage, nor the proper mode or means of carrying it into effect. In a subsequent report your committee will be prepared to furnish, in connection with the city engineer, full estimates of the probable expense, and to make recommendations as may be necessary to enable the council to take intelligent action on the subject. Respectfully submitted,

P. W. Crawford, Thomas Kavanaugh,
H. E. Deckert, Theo. Altman, } Committee.

Dr. Carpenter on Public Health as a Workingman's Question.—The last meeting in connection with the Sanitary Congress of 1883 was held in St. Andrew's Hall, Glasgow, on a recent evening, when Dr. Alfred Carpenter addressed a large gathering of the working classes on the above topic. Dr. Carpenter said that the statement was frequently made that sanitary science had nothing to do with the workingman but he hoped to show conclusively that it was in a great measure a workingman's question. The workingmen had a great deal more to do with the health of a given district than any other men who lived in it. The rich man, the professional man, or the merchant, could take away his wife and family if there was anything wrong in the city, but the poor man must stop near his work; he must keep his work or else he would loose his income altogether. In the district in which he resided, the condition of things with regard to the water-supply was most unsatisfactory while he was chairman of the water company of the place; and he impressed on his colleagues that, so long as the water-supply and fittings were of the kind that existed, the community was in the greatest danger, and liable to the incidence of disease of a very severe character. He persuaded the committee to agree to certain alterations; and as at that time it happened his term of office expired, he had to go before the electors. The owners of property went about the electors of the district, and said: "If you vote for Dr. Carpenter, and these alterations which he suggests are carried out, we shall be obliged to raise your rents;" the result being that, instead of heading the poll, as he had previously done, he was at the bottom. After speaking of typhoid fever in connection with water-supply, Dr. Carpenter observed that there were other ways in which the health of a people was affected by a water-supply—in its effect upon what was called the death-rate of a district. In his (Dr. Carpenter's) own district—a healthy district—two were down on a bed of sickness every day of the year for every one death. If they considered that, they would see how the death-rate affected the workingman. A death-rate of 36 meant that 72 persons per 1,000 were on a bed of sickness every day throughout the whole year. If, then, they had reduced the death-rate from 36 to 26 per 1,000 in Glasgow, an enormous saving had been made to the workingman, and that by the introduction of the grand water-supply, and the other measures that were being carried out by the municipal authorities for the purification of the city. The question of how many deaths had taken place in a year was one thing, but the question of how much sickness, how much suffering, how much infelicity there had been amongst the people during the same time was a very much larger question. He should take the average sickness of a workingman at seven days per year, and he should tell them how he got that average. It was from the returns of the great benefit societies, the Odd Fellows and the Foresters. Now, in a certain district he had been inquiring into, there was a manufactory which was reported to be of an unhealthy character, and in which the workmen were thought by outsiders to be following an unhealthy trade. That factory had a benefit society of its own. Now, he found that in that factory, which was managed on the most strictly sanitary principles, the amount of sick pay that had been paid during the last two years and a half had only been at the rate of three days and a half per annum per member. There was a great saving to the workingman in the difference between three days and a half and seven days' sickness per annum. Now, taking seven days as the average sickness in London each year, and reduce it to six or raise it to eight—and that was probably nearer the figure in Glasgow—they would see what an enormous difference was the result. Supposing there were 50,000 members of benefit societies in Glasgow, and each member had seven days' sickness in the year, that was 350,000 days' sickness per year which members drew pay for. By a very slight reduction in the death-rate, they would save to the workingmen 100,000 days of sickness per year, and not only that, but they would thereby enable them to earn their usual wages. Dr. Carpenter said this showed conclusively how much the question of health was a workingman's question. Dr. Carpenter went on to refer to a paper he heard read in 1874 by Baillie Morrison, who then gave certain causes as accounting for the high mortality of Glasgow. Mr. Morrison held that character and occupation had a great deal to do with the high mortality. He (Dr. Carpenter) contended that character and occupation were not reasons at all for high mortality, and he instanced the fact that there were no healthier districts than those that suffered from the cotton-famine a number of years ago. It was the case, on the other hand, that with high wages and plenty of work there was always a high mortality. It was a very serious reflection that the more prosperous Glasgow was, *pari passû*, the higher would be its mortality. Character might have something to do with it, but men were not vicious from choice. Overcrowding was not a complete reason for the high death-rate of Glasgow, because there were districts in London, like Shaftesbury Park and Peabody Buildings, where there were more than 1,000 persons to the acre, and where the death-rate was only 14. Why was that? It was because nearly the whole of the occupants of those dwellings were total abstainers. Among the circumstances to which he attributed the high death-rate of Glasgow there were two over which the people themselves had no control. One was that the houses were built of stone, and were not pervious to air in the same way as the jerry-builders' houses of London. No air penetrated the walls of the Glasgow houses, and one of the results was foul air in the compartments. He had a proof of that in the fact that cold weather at once raised the death-rate in Glasgow. The people kept the fresh air out of their houses in trying to shut out the cold. That was one other reason, foul air, which was mentioned by Baillie Morrison, who also referred to the high infant-mortality in Glasgow. Thirteen per cent. of all the babes born in Glasgow died in the first year of their life, and nearly one-half did not reach their sixth year. This sad state of things was brought about by the evils he had been speaking of. Worse even than the foul air, however, was the whiskey-shop. The money that should go to the support of their children went, in too many cases, down the throats of the fathers and mothers in the shape of whiskey. The other circumstance he wished to speak of as contributing to the unhealthiness of the city, and yet over which the people had no control, was the water-supply. Serious evil followed from the city's pure water, because the purer the water was the more absorbent did it become. Before it was consumed, it would imbibe in foul matters that were in the atmosphere, and would thus tend to diminish the health of those who consumed it. Passing from this subject, Dr. Carpenter pressed upon his hearers the necessity of having more than one apartment in their houses, if they were to be strong and well. He then spoke of the savings bank, paying a high compliment to the workingmen of the city, that they should be saving more money, *pari passû*, than any other workingmen in the kingdom. He wished to give them an advice on this subject, however, and it was this: that they should not starve their wives or their children, or put up with one-room houses for the sake of thrift. Roomy houses and fresh air promoted felicity, about which they had been hearing so much. There was another thing which promoted felicity also, and that was good cooking. Speaking of the importance of pure atmosphere, he advocated the use of gas-apparatus for cooking purposes. If they used gas-apparatus for that purpose, their expenditure would be less than at present, and they would have the satisfaction of knowing that they were helping to diminish that impurity of the atmosphere which certainly did much to injure the citizens of Glasgow. In sailing down the Clyde, he was utterly astonished at the immense volumes of dense black oily smoke turned out into the atmosphere by steamers and manufactories. The owners of these had no more right to pollute the atmosphere we breathed than to pollute the streams running through the estates of the landlord. He wanted the workingmen to take that question in hand, and determine that public opinion in Glasgow would insist upon a stop being put to these dense volumes of smoke sent out to destroy their comfort and happiness. In doing that, they would do the manufacturer or steamship owner no injury. If they were compelled to consume in boilers the tons and tons of carbon and oil sent into the atmosphere in smoke, the owners would be amply repaid the cost. While the present condition of things went on, the community could not have that pure atmosphere so necessary to the enjoyment of health. Referring to the importance of good sanitary arrangements from an economic point of view, Dr. Carpenter instanced the case of the army. Each soldier in Her Majesty's army cost on an average £100 to whip him out of the raw recruit into a state fitting him for service. Not very long ago the death-rate among the soldiers at Gibraltar was 21½ per 1,000 and now it was only 5½. He asked his hearers to consider the important saving that meant. The death-rate in the London police was only 5 in the 1,000. The death-rate in the army was 9 per 1,000, and in the navy 6 9-10. He attributed the lower death-rate in the navy to the circumstance that those connected with that branch of the service were not exposed like the soldiers to the influence of the whiskey-shops and gin-palaces.

Size of Drains and Soil Pipe.—In Great Britain 6-inch soil pipes were formerly common to receive the wastes from four or five water-closets. At present 5-inch and 4½-inch are the usual sizes, even for a single water-closet. Hellyer claims that the soil pipes should be no larger than the outlet of the water closet, and sarcastically says it is not wanted for a coal schute or dust shaft, but to be well flushed at every using. For a private house, where care would be shown in using fixtures, he thought a 3½-inch lead soil pipe ample for a tier of three water-closets, and a 4½-inch pipe for twelve closets ; the smaller pipe kept cleaner than one of larger size. Whether Mr. Hellyer would favor an iron soil pipe of like size is not to be taken for granted, as he always assumes that lead is smoother and can be kept cleaner than cast iron. Hellyer refers to the architects and others who want good strong plumbing—using the best material, but requiring very large soil pipes and drains. These are as common here as in Great Britain, and we have frequently come upon their work—huge 10-inch wrought iron drains, with hubs as large as a barrel.

Colonel Waring's vigorous advocacy of small drains has converted most persons to admit their advantage. His experiments at Saratoga showed that the drainage of a large hotel, containing 2,000 occupants, could be carried off in a 6-inch pipe. For an ordinary city dwelling a 4-inch drain is ample, even including the rainfall, while for a large house or a French flat a 6-inch pipe will suffice. The common objection to small drains is that they may get choked with articles thrown into them by careless servants—as scrubbing brushes, towels, broken glasses, crockery, spoons, forks, etc., all of which have been found in them ; but a 4-inch drain will carry off any article which can pass through a water-closet or sink trap, and hence it is quite large enough to meet that objection, so long as it is laid with a proper pitch, has no angles, and is well flushed. The growing use of modern water-closets, which discharge several gallons of water each time they are used, is an additional aid to keeping house-drains clean and clear from obstructions. Small drains are more likely to be self-cleaning than large ones. A stream of sewage that fills the former completely will only cover the bottom of the latter, and, having less velocity, will exert less force upon the sediment and coating of filth which forms within all waste pipes. Grease always fills up a large pipe sooner than a small one. We have a 5-inch drain taken from a very large house in Brooklyn, in which the water line shows plainly exactly along the centre of the pipe. A pipe two-thirds as large would have served just as well. Colonel Waring now advocates reducing coil pipes to 3 inches, but this change is yet to be demonstrated by experience.—*Metal Worker.*

PHARMACY AND THERAPEUTICS.

On the Oleates and Oleo-Palmitates in Skin-Diseases. By Dr. John D. Shoemaker, in *Philadelphia Medical Bulletin.*—Oleates must no longer be considered merely as solutions of oxides in oleic acid, as previously described, but rather as definite chemical compounds or salts, having no excess of either their acid or basic radicals. While the oleic solutions could not have presented, therapeutically, results differing from those of the oxides employed in solution, the oleates themselves present a very different action, by being chemically in a readily diffusible state. To speak of a five or ten per cent. oleate is as absurd as it would be to speak of a five or ten per cent. sulphate of quinine or morphia or atropia, or in fact, any substance having a definite composition. The true oleates, whilst being more efficacious, are of a stable character very different from the oleic solutions in common use; moreover, from containing less oleic acid, they are much less costly, a point not without its practical bearings.

Dr. Lawrence Wolff finds that the best and readiest method of preparing oleates is by the double composition of sodium oleates with solutions of neutral salts. The sodium preparation is made, to begin with, by the saponification of oleic acid with sodium hydrate. A solution of this in eight parts of water is then precipitated by the salt required; the precipitate washed and dried yields the oleate. For the sake of economy, the oleo-palmitates, double salts of oleic and palmitic acids with the metal or base required, may come into use; and, when manufactured from a soap of the oil of sweet almonds, which contains less palmitic acids than other oils, they answer well for dermic medication.

Oleate of Mercury should be made by precipitating a solution of sodium oleate with mercuric chloride, or a mercuric oleo-palmitate may be obtained by substituting the sodium oleo-palmitate. The precipitate readily forms on boiling the solutions. It may be diluted with either the paraffinates or, better still, with lard or lard-oil. It is the best local stimulant and alterative application of all the mercurials. When applied to the unbroken skin, it produces marked stimulation bordering on congestion. When rubbed in over tumors, indurations, and glandular enlargements, or thickening of the skin, it exerts a most valuable resolvent and alterative action. It has many advantages over the old mercurial ointments; firstly, being a chemical compound, it is more readily absorbed by the skin; secondly, being soluble in fats, it has great penetrating power; thirdly, it does not become rancid; fourthly, it is cleanly and economical. It is a most valuable remedy in syphilis. It is rapidly absorbed, leaving only a reddened surface, and there is no staining of the linen. It is quite capable of producing the constitutional effects, so must be used with caution. It is best to employ an ointment consisting of one part of oleate with three parts of lard, and of this a piece of the size of a small marble may be rubbed into the thighs, the limbs, or trunk. It is also useful in the treatment of indurations occurring after abscesses, in excess or deficiency of pigment, either as a disease or as the result of applications, in indolent papules, in obstinate ulcers, particularly the syphilitic, and in cases of enlarged testicle. In the indolent and chronic stages of psoriasis, when the patches are thickened, harsh, dry, and cracked, the application of the oleate does much good, although it is usually necessary to previously remove the scales by alkaline baths, oils, water-dressing, or wet packing. In all forms of vegetable parasitic disease the oleate lightly smeared over the surface will not only kill the parasite on the surface, but will frequently, by its penetrating and diffusive action, pass into the hair follicles and sebaceous glands, and destroy anti fungus that may have penetrated beneath the skin. In phtheiriasis, the olaete destroys both the parasite and the nits. The oleate of mercury may be employed advantageously in combination with other oleates. A mixture of ten or twenty grains of oleate of mercury with one drachm of the ointment of oleate of zinc is very effective in chronic acne and eczema, especially in the fissured variety of the latter, which is so common on the palmar and plantar surfaces. In all syphilitic skin eruptions, and in superficial ulcers, one drachm of the oleate of mercury with three drachms of the oleate of bismuth, or the same quantity of the ointment of the oleate of lead, acts quickly and decidedly. The oleate of mercury, in the proportion of one or two drachms to one ounce of oil of ergot, forms one of the best and most efficacious oily applications for loss of hair. It is especially useful when the scalp is harsh and dry, and the hairs look dull and lack their peculiar lustre.

Oleate of Zinc is made by decomposing a sodium oleate with a saturated solution of zinc sulphate, boiling out and drying the precipitate, and then reducing it to an impalpable powder. One part of this, melted with three parts of a fatty vehicle, forms a most useful ointment. The best results, however, have been obtained with oleate of zinc alone, unmixed with any fatty substance. It is a fine pearl-colored powder, having a soft, soapy feel, very much like powdered French chalk. It is a valuable application in all forms of sweating.

Oleate of Lead is obtained by precipitating a sodium oleate with a solution of lead subacetate. The washed and dried precipitate, melted with equal parts of lard, gives an ointment which may be designated the ointment of lead oleate. This ointment is cream-colored and semi-solid, of the consistency of simple cerate. When applied to the denuded skin, it exerts both a combined sedative and astringent action, and will arrest morbid discharges, protect the surface, and allay irritation. It is more readily absorbed than either Goulard's cerate, or Hebra's litharge ointment, and it is now easily and cheaply prepared. It is of the greatest use in allaying the inflammation and checking the discharge and itching of eczema. It is useful in simple lichen, and in the hard indurated papules in acne of the face and back. It may often be used with much advantage in combination with one or other of the oleates to be presently described. Thus a good combination in many skin diseases is two drachms of the oleate of lead, with one drachm of oleate of bismuth. This has a most beneficial effect in the fissured form of palmar and plantar eczema. When the inflammation and cracking are very deep and severe, and require a marked stimulation, the addition of twenty or thirty drops of the oil of cade, to two drachms of this oleate, will succeed better. In scabies, an excellent preparation is four drachms of the oleate of lead ointment, with half a drachm of sulphur.

Oleate of Copper is obtained in a similar way to the lead oleate, by double decomposition with a saturated solution of copper sulphate. A 10 or 20 per cent. ointment may be made with either cosmoline, fat, or lard. When applied to the unbroken skin, the oleate rapidly penetrates deeply into the parts, particularly into the follicles, producing slight stimulation. If brought into contact with the broken skin, it coats it with an insoluble albuminate. It is an excellent application for ringworm, and, even in the most obstinate cases, will usually speedily effect a cure. It is a good application for indolent ulcerated surfaces, and in some cases has cured obstinate, hard, and horny warts and corns.

Oleate of Aluminium is prepared by decomposing sodium oleate with aluminium sulphate. The washed precipitate mixed with equal parts of lard, forms the ointment. The ointment thus prepared is semi-solid, dark-brown in color, and has a most powerful astringent action. It quickly checks all muco-purulent discharges, and is an useful dressing for foul ulcers, sinuses, burns, and scalds.

Oleate of Bismuth can be obtained only by first preparing a crystalized bismuth nitrate, dissolving this in glycerine, and decomposing with this the sodium oleate. It is of ointment consistence, and should be used as thus obtained. It has a pearly-grey color, and is a soft bland substance. It has an emollient and slightly astringent action, and is a most valuable remedy in soothing and relieving cutaneous irritation. In pustular eruptions, particularly sycosis, the oleate of bismuth, lightly pencilled over the surface with a camel's-hair brush, will greatly relieve the engorgement of the parts, and will often abort the pustules. It is equally efficacious in superficial erysipelas, and in sunburn, and is of much value in chronic inflammation of a portion of the face. It is most useful in gonorrhœa and gleet; the best way being to pass a bougie, covered with the oleate of bismuth, and allow it to remain in the passage for some minutes.

Oleate of Iron is made by precipitating from sodium oleate with ferrous sulphate; on boiling it is converted into ferric oleate, and, as such, may be used either alone or mixed with an equal quantity of fatty base to form an ointment. It is free from local irritation when used topically, but, when brought into contact with an ulcerated surface, it has a mild astringent action. It is readily absorbed, so as to produce the constitutional effects of the iron. A small piece of ointment may be rubbed into the axillæ and groins two or three times a day. This mode of treatment is of the greatest value when the stomach is irritable, and ordinary preparations of iron are not well borne.

Oleate of Arsenic is derived from the arsenious chloride, made by the cautious saturation of hydrochloric acid with arsenicum. This solution having been obtained, it is mixed with sodium oleate, when the arsenicum oleate is thrown down. In the proportion of twenty grains to an ounce of fatty base, it forms the ointment of arsenicum oleate. It is in this form a soft yellowish ointment, having no action on the skin. When applied to wounds, or ulcerating surfaces, it destroys the tissues to some depth. In lupus, especially the ulcerating varieties, its constant application will destroy cell-infiltration in a mild and comparatively painless manner. It is also used with advantage in the tubercular forms of lupus, and in the ulcerating variety of epithelioma. It may be employed, after scraping the surface, to destroy warts, condylomata, nævi, corns, horns, and old granulations. In some cases, it may be combined with opium, belladonna, hyoscyamus, or arnica.

Oleate of Silver, like the others, is prepared by precipitating the odium oleate with a salt of the metal, a saturated solution of nitrate of silver being employed in this case. The precipitate is washed with boiling water, and then dried, after which it is reduced like the zinc oleate to a fine powder. One drachm of this dissolved in an ounce of fatty material forms a most useful ointment. This oleate, in its natural form, sprinkled over old chronic ulcers, bed-sores, and exuberant granulations, will set up a healthy state in the parts. It is a safe and efficacious remedy in erysipelas, and can be used either round the margins to prevent the inflammation from extending, or it can be applied diluted to the inflamed surface. It checks itching about the anus and in other regions, and is sometimes employed in combination with opium, belladonna, &c.

The oleates of magnesium, lithium, calcium, antimony, tin, &c., are easily prepared, but as yet have proved of little value as far as dermic medication is concerned.

[Mr. Martindale has recently made the reporter some oleate of zinc, according to the method described in this paper, and it is undoubtedly a very great improvement over the old so-called oleate. As Dr. Shoemaker says, it is "a fine pearl-colored powder, with a soft-soap feel, very much like powdered French chalk." Mixed with thymol (1 in 500) and used as a dusting powder, it forms an excellent application in many varieties of local sweating. The reporter has used it with much success in the treatment of the night-sweating of phthisis.]—*London Medical Record.*

On the Preparation of the Medicinal Oleates. By Dr. Squibb (in *Ephemeris of Materia Medica, etc.*).—Various methods of preparation have been advocated, but none so good as the direct union of the acid with the dry base without heating. The preparation should always be either a liquid or a semi-solid which is easily and completely liquified by the natural temperature of the surface to which it is to be applied, and hence normal oleates undiluted are not applicable to therapeutic uses, but only solutions of the oleates, and these solutions should always be in oleic acid as the solvent rather than in oils, because the acid is more readily absorbed than the oils. In the rare cases where the excess of acid as a solvent of the oleates proves irritant to the skin, dilution with a bland oil becomes admissible. A paper has appeared recently by Dr. Shoemaker, in which it is stated that the oleates as commonly prepared and used are not chemically true oleates, but merely solutions of oxides in oleic acid, and as such will often give negative results. This is a mistake, and is as great an error as it would be to say that mercuric nitrate, made by dissolving mercuric oxide in nitric acid, was not a chemical nitrate, but only a solution of the oxide in the acid. This author also states that the best method of making oleates for medicinal uses is by double decomposition ; and this, as a general statement, is also a mistake, as very few oleates are well made in this way, and it is doubtful whether any are best made by double decomposition between solution of oleate of sodium and solution of salts of the bases. At least this is neither the simplest nor the easiest way of making the solutions of the oleates in oleic acid as required for the best and the easiest absorption through the sound or unbroken skin, and it is incorrect to write of preparations made by direct union of the acid and base as "supposed oleates" of "indefinite and unstable character."

The oleates which, up to this time, appear to have been most used, are oleates of aconitia, atropia, mercury, morphia, quinia, strychnia, veratria and zinc. These are for general or epidermic use through the skin, while for special or dermic use in diseases of the skin, oleates of copper, lead and zinc are those most frequently heard of.

Oleates of the more active alkaloids, namely, aconitia, atropia, strychnia and veratria, are usually and properly made of the strength of two per cent. of the alkaloid. The oleate of morphia usually contains 5 per cent. of that alkoloid, while the oleate of quinia is made as strong as is practicable, and usually contains 20 per cent. of the alkaloid.

All of these are very simply and easily made by putting the weighed quantity of the alkaloid into a mortar, adding a small quantity of the oleic acid, little by little, and triturating until the alkaloid is completely dissolved The strong solution thus made is then poured into a tarred bottle, and the mortar and pestle rinsed twice into the bottle with small quantities of oleic acid. The proper weight is then made up by the addition of oleic acid. No heat is needed, nor should any be used in the preparation of many oleates, but in some of these the digestion is prolonged, and intervals of trituration are needed. All heating has a great tendency to change their molecular constitution. If well-made oleate of morphia be shaken with dilute sulphuric acid, the morphia should be washed out as a sulphate, but it is a singular fact that it cannot all be so recovered as morphia; yet the morphia effect of the oleate is prompt and decided. This appears to show that some change is effected in the alkaloid even by combing it without heat, while if heated the changes are destructive.

The molecular or combining weight of oleic acid is high, namely, 282, but the weights of the alkaloids are still higher. That of aconitia is 645, atropia 239, morphia 285, quinia 324, strychnia 334, and veratria 592. Hence the molecule of the respective oleates would be very complex and very easily split up by any forces tending to decomposition, as heat, light, &c., or by oxidation from undue exposure to air. Hence it is that oleates may not keep well, but should be as freshly made as practicable, and should not be relied upon for their full effect when more than a year old, even if they have been carefully kept in a cool place.

The normal oleates—that is when the oleic acid is fully saturated by the base—contain the following percentage of the respective bases:

Oleate of aconitia,	about	69.6	per cent.	of	aconitia.
Oleate of atropia,	“	50.6	“	“	atropia.
Oleate of morphia,	“	50.3	“	“	morphia.
Oleate of quinia,	“	53.5	“	“	quinia.
Oleate of strychnia,	“	54.2	“	“	strychnia.
Oleate of veratria,	“	67.7	“	“	veratria.
Oleate of bismuth,	“	22.2	“	“	Bi_2O_3.
Oleate of copper,	“	12.7	“	“	CuO.
Oleate of iron,	“	11.7	“	“	FeO.
Oleate of lead,	“	29.	“	“	PbO.
Oleate of mercury,	“	28.4	“	“	HgO.
Oleate of zinc,	“	1.29	“	“	ZnO.

In epidermic medication it must be borne in mind that the skin, in common with the mucous membranes of the primæ viæ, does not absorb with equal facility or rapidity at all times. As was forcibly said by Prof. Meigs, in regard to the occasional inactivity of powdered ergot in parturient women: “There are conditions of stomach in which you might as well put your medicines in a bladder and hang it up on a nail.” So there are conditions of skin wherein absorption is slow and difficult, and in all such, hypodermic medication has great advantages, and it is highly probable that the hypodermic use of these oleates would be effective in such cases.—*Pharmaceutical Journal.*

To Secure Children against attacks of Diphtheria. By F. Peyre Porcher, M.D., Professor of Materia Medica and Therapeutics in the Medical College of the State of South Carolina, Charleston.—In the course of a review published in the *Charleston Medical Journal* many years since, and also in a letter to a medical gentleman in Philadelphia, written in 1879, which was copied in the *Medical Brief*, of St. Louis, Mo., I proposed a plan for preventing the attacks of this fatal disease. This was by measures to be used by those who were well, but who were exposed to its contagion. My ideas were based upon the fact that this disease (whether or not it depended upon the presence of a specific germ) at its inceptive stage was local, and generally had its seat in the fauces, which, if acted on and modified by suitable agents, would not offer a nidus for its reception. If micro-organisms are the agents by which diphtheria is caused or propagated, then they will be less likely to effect a lodgment upon surfaces which are subjected to the repeated action of remedies which, whilst uninjurious, may also prove efficient in the destruction of such organisms. I also selected agents well known for their activity and value as tonics, depurants and antiseptics, and which would be adapted to the treatment of the disease should our efforts at prevention prove abortive.

The prescription is as follows—the alcohol being a comparatively recent addition:

℞	Tinct. of the chloride of iron	2 to 3 drams.
	Chlorate of potash	2 to 3 drams.
	Quinine	15 to 20 gr.
	Hyposulphite of soda	1 to 2 drams.
	Alcohol	1 ounce.
	Water	6 ounces.

M. S.—A tea-spoon to a dessert-spoonful two or three times a day in a little water—to be used by those exposed to the disease. The size of the dose may vary with the age of the subject and the nature of the exposure.

I have directed and used this formula in many families here for years past, by whom it has always been kept, and others have employed it elsewhere by my advice; and, though the testimony must always be negative, I have never known a case of diphtheria to occur where it was used. The experience of one physician, however, cannot be conclusive upon such a subject, and others must examine into the merits of a claim of such importance.

In the early part of the past year, in a communication, made at his request, to my friend, Dr. Thos. F. Wood, editor of the *North Carolina Medical Journal*, I suggested that an addition might be made to the above formula in the case of children much exposed to the danger of infection—when, for example, the disease already existed or had recently occurred in a household. This consisted in the addition to each dose of 1-50 to 1-75 of a grain of the bichloride of mercury; and it was based upon the special power of this agent in its action on micro-organisms—as an antiseptic and germacide.

Besides the earlier testimony of European observers, in the recent paper by Dr. Sternberg (*Am. J. Med. Sciences*, for April, 1883), entitled "Experiments to Determine the Germicide Value of Certain Therapeutic Agents," the highest rank is given to this agent as a germicide—iodine, in his opinion, being next in order; and he states as a confirmatory fact that they are now using corros. sublimate in Vienna as a remedy in diphtheria. Prof. Pepper, of Philadelphia, following Dr. G. A. Linn's method, has reported the cure of a desperate case by corros. sublimate, given in doses of 1-32 of a grain, combined with other agents. Dr. Jas. C. Wilson, of Philadelphia, in an article of the same issue of the *Am. Journal*, recommends it as a disinfectant for the stools in enteric fever.

These observations only confirm and strengthen the probable value of the suggestion I had long before made with regard to the use of this agent.

The employment with similar intent of salicylic acid, thymol, eucalyptus, the oils of gaultheria and mint, or the combination known as "Listerine," may prove useful; but I do not think that vegetable products will modify mucous membranes as powerfully as mineral.

If diphtheria be so great a scourge, and the combination I propose be not hurtful, but beneficial—even if regarded simply as a tonic and roborant—if there is even a probability that it will prevent an attack, then I hope the profession will test the efficacy of this formula. If my anticipations become realized by the observations of others, such uninjurious agents as were advised in the original prescription will not be withheld even from the laity, but will be widely disseminated.

In conclusion, I would add, that I have found the same formula serviceable likewise in the treatment of scarlet fever; and, with the substitution of two or three drachms of sup. tartate of potash in lieu of the hyposulphite of soda, it has proved in my hands extremely valuable in erysipelas, in ulcerative sore throat, in cellulitis, and diseases of the lymphatic system, where there is swelling and puffiness of the subcutaneous cellular tissues.

THE USE OF JEQUIRITY IN EYE DISEASES.—This remedy was first brought before European practitioners by De Wecker, in the *Annales d'Oculistique* for July–August, 1882. The seeds of the jequirity plant, the Abrus precatorius, have been since a long time employed by the natives in some parts of Brazil, in ocular affections. This method of treatment was first made known to De Wecker by one of his old patients, who, subsequently to his return home to Brazil from Paris, suffered a fresh outbreak of granular conjunctivitis, from which he was much relieved by the use of this drug.

The directions given were to soak for twenty-four hours 32 grains of the powdered seeds in 1,000 grammes of water. The patient bathes his eyes with the filtered product thrice daily for three days, at the end of which time he has become the subject of a severe conjunctivitis, which may be either purulent or more allied to the diphtheritic form. By the fifteenth day the inflammation ceases, and the granulations are found to be much diminished in size, or even destroyed.

The same author presents in the *Annales d'Oculistique* for November-December, 1882, an article on the ophthalmia produced by jequirity.

From numerous experiments he draws the following conclusions:

1. Without doubt, jequirity produces a purulent or even diphtheritic conjunctivitis, whose intensity can be readily regulated by the strength of the solution employed and the number of its applications. The strength may be anything between that given in the paper just referred to, and 10 grammes in 500 grammes of cold water.

2. The cornea runs no risk during the use of this remedy. It is true that in one case he has seen it suffer slightly and temporarily, but this was only when the applications had been pushed to such an extent that a membrane of the true diphtheritic appearance was produced.

3. The ophthalmia of jequirity cures granulations rapidly, and it is less unpleasant and less dangerous than that produced by the intentional inoculation of blenorrhœic matter.

He thinks that the ophthalmia of jequirity, which subsides spontaneously after eight or twelve days, can only be effectively produced while the patient resides within the walls of an hospital. Its curative effect on granulations and on corneal opacities goes on for a very considerable period subsequent to the inoculation.

In the same number, Dr. Moura Brazil, of Rio de Janeiro, discusses the treatment of granular conjunctivitis by jequirity. It appears that as early as 1867 Dr. Castro y Silva, of Ceará, published a memoir in which he speaks of the dangers attendant on the injudicious use of jequirity, so that it must even then have been well known in some districts of Brazil. The mode of preparation appears to have been as follows: The ripe seeds were soaked in cold water in the proportion of 1 to 700 for two or three days, or in boiling water for a few hours. Afterwards the embryos alone were picked out, reduced to fine powder, and then macerated for twenty-four hours. The infusion was finally filtered, and applied thrice daily between the lids for three days.

Dr. Moura Brazil records his own experiments on rabbits, which certainly show that under certain circumstances the inflammation may become violent and even quite uncontrollable. An infusion of the seeds in the proportion of one to twenty produced a severe diphtheritic conjunctivitis, followed, notwithstanding all treatment, by destruction of the cornea and suppurative panophthalmitis. Using the radicle and gemmule without the cotyledons, he found the inflammation less intense, though still beyond what he wished. In his treatment of patients with granular lids he has used it with great advantage at all stages of this affection, using the seeds freed from their covering and from the radicle and gemmule, in the proportion of one in twenty. He is clear in strongly recommending its use as beneficial in all stages of granular ophthalmia, and as infinitely superior to inoculation with blenorrhœic matter.—W. A. Bradley, M.D., in *London Medical Record.*

Jequirity.—The seeds which have been recently introduced under this name, as a remedy in ophthalmic complaints, are derived from Abrus precatorius, a leguminous plant, indigenous to Africa and Southern Asia, and naturalized in tropical America. The hard seeds have a bright red integument with a black spot surrounding the raphe. They are used in Oriental countries for ornaments and similar to beads; in Brazil they have been highly valued for several centuries in the treatment of certain diseases of the eyes, an infusion being made of 32 powdered seeds (about 3 gm.), which are macerated for twenty-four hours with 500 gm. cold water, after which 500 gm. of hot water is added, and, when cooled, the liquid is filtered.

The results obtained by L. de Wecker, show that this infusion produces conjunctivitis purulenta or cruposa as rapidly as inoculation, and that with due care the desired inflammation may be well regulated. The experiments have not been concluded yet, and the active principle of the seeds is still unknown; an alkaloid prepared by Rigand and Dusart, did not give similar good results, whether used by instillation or subcutaneously.—*Phar. Centralhalle*, 1883, p. 145.

Pelletierine Tannate as a Vermifuge.—In the *Medical Times* for January 21, 1883, Dr. A. Judson Gray relates his experience with pelletiérine tannate as a tæniafuge. His case was a male, aged thirty-five, on whom four attempts to dislodge the tape-worm, with which he had been suffering for five years, had been made. In three of the attempts, eight, twenty, and eighteen feet, respectively, had been passed, but failure to remove the head in each instance was the result. Accordingly he concluded to try this remedy after the manner described by Dr. Berenger-Ferand, whose article can be found in the *Times* for October 7, 1882. He thus describes the result: "My patient selected November 19 for the trial of pelletiérine, and on the evening before took a light supper of bread and milk, and at bedtime used a large enema of warm water. On rising at nine o'clock the next morning, the full dose (one fluid once of the solution) of the tæniafuge was taken, followed by six of Wyeth's compound vegetable cathartic pills. An hour later a substantial breakfast was taken and enjoyed as usual. At one o'clock, p.m., a single evacuation occurred, which was free, painless, and brought the worm entire." The worm measured 24 feet; was of the variety known as tænia medio-canellata.

DISTILLED WATER FOR EYE LOTIONS.—In the *Practitioner*, Dr. Paul M. Chapman claims that it is not the best vehicle for eye lotions, saying: "I have tried the experiment on myself and on many of my friends, and the answer is always the same, viz., that the introduction of distilled water into the eye is attended with much discomfort and smarting, while with normal saline there is no noticeable effect whatever. The practical deduction is this, which I have also verified, that the addition of 2½ grains of chloride of sodium to the ounce of distilled water renders any lotion intended to be of a soothing character much more beneficial."

BENZOIC SULPHINIDE, A NEW SWEET COMPOUND.—Constantine Fahlberg, Ph.D., in a paper read before the Franklin Institute, says, in connection with an investigation upon the hydrocarbons of the coal tar group, it was discovered that a certain compound obtained by the oxidation of toluene-sulphamide with potassium permanganate tasted sweet. The sweetness was so intense that a few drops of the cold mother-liquor, remaining on and being partly washed off my hands, could be easily detected by the taste. As soon as I had discovered this property, peculiar only to this particular mother-liquor, the substance obtained from it was subjected to several tests in order to determine whether it was poisonous to take it in larger quantities or not. At first a cat and then a dog was subjected to this cruel treatment, but they remaining fortunately alive, and apparently not in the slightest degree affected by it, I decided to take several grammes of it myself. The result was not the slightest inconvenience experienced from it. I subjected, the next morning, my urine to the chemical test, and found it to contain almost the entire quantity taken the previous night. The compound which I now will exhibit to you forms salts with any carbonate of the alkalies, alkaline earths, or metals, and all of which you will find taste sweet. It is, however, not an acid, but belongs to the class of bodies which Professor Remsen and myself have given the name of "sulphinides," the compound in question being benzoic sulphinide. It is very readily soluble in alcohol, more so than in cold water, in which it only dissolves readily when it is hot. I am making the attempt now to prepare it in larger quantities and by cheaper methods, and have no doubt that it will find extensive use in medicine and for technical purposes. One experiment made lately was to sweeten glucose, which, as you all know, tastes only faintly sweet, and the result was a complete success. As soon as I shall have found the method by which to prepare it on manufacturing scale, I shall come before you again, and, as I trust and hope, with larger samples than now, ready to give answers to all questions in regard to its price, application, &c.—*Scientific American.*

INFLUENCE OF FOWLER'S SOLUTION UPON THE HÆMOGLOBIN IN THE BLOOD.—From an investigation made to determine the effects of the medicinal administration of some remedies upon the proportion of hæmoglobin in the blood, Dr. Fenoglio, of Turin, concludes that the iron preparations vary considerably in their effects. Fowler's solution increases the hæmoglobin, and this becomes more marked the longer it is given. In spite of the general opinion to the contrary, the administration of Fowler's solution is indicated in anæmia, chlorosis, and in general in all conditions in which there is a decrease in the hæmoglobin, for the influence of this agent is very evident in increasing the proportion of the hæmoglobin; and, furthermore, its use increases the appetite and produces a general improvement in the bodily appearance and condition.—*Medizin. Jahrbücher.*

Hypodermic Solutions.—

Carbolized Distilled Water.

℞. Acidi carbolici	1 part.
Aquæ destillatæ	999 parts.

Ext. Ergot Solution.

℞. Ext. ergot (Squibb's)	1 part.
Aquæ destil. carbol	5 parts

Magendie's Sol. Morphia.

℞. Morphiæ sulph	gr. lxxx.
Aquæ destil. carbol	f. ℥ v.

M. and filter.

Lente's Solution of Quinia.

℞. Sulph. quiniæ	gr. lxxx
Acid. sulph. dil	q. s.
Aquæ	ad f. ℥ j.
Heat to boiling and add Acid. carbolic	gr. v.

Sol. Pilocarpia Muriate.

℞. Pilocapiæ mur	gr. j.
Aquæ dest. carbol	♏ l.

Dose, ten minims.

Sol. Apomorphia Muriate.

℞. Apomorphiæ muriat. cryst	gr. j.
Aquæ dest	♏. lxxx.

Dose, 10 ♏ for emetic.
To be prepared only at the time it is wanted.

MEDICAL NEWS.

The American Climatological Association.—At a meeting held on the 25th of September, this association was formed, and it was determined that its objects should be the study of diseases of the respiratory organs, together with the influence of climate thereon. The following-named gentlemen were elected officers: Dr. Alfred L. Loomis, of New York, President; Dr. Frederick I. Knight, of Boston, First Vice-President; Dr. W. H. Geddings, of Aiken, S. C., Second Vice-President; and Dr. James B. Walker, of Philadelphia, Secretary and Treasurer. The first annual meeting will be held in Washington at about the time of the meeting of the American Medical Association.

The twenty-fourth opening exercises of the Homœpathic Medical College were held at the building on Twenty-third street and Third avenue in the presence of a large audience. The opening address was made by the Dean, Professor T. F. Allen, M.D., in which he congratulated the college on its increased strength and vigor. It begins its year with twice the number of students it has ever had before.

A SUCCESSFUL Resection of the Pylorus for cancer was recently made by Professor Heinecke, of Erlangen.

SURGEON-GENERAL U. S. A.—Dr. Charles H. Crane, Surg.-Gen. U. S. A., died October 10th, of hæmorrhage of the throat. Dr. Crane was a distinguished and meritorious officer. He entered the service November, 1847.

N. Y. ACADEMY OF MEDICINE has refused to so modify its constitution and by-laws as to make them conform to the wishes and views of its "new code" members. It has, however, abolished that one of its requirements for membership which exacted obedience to the old code.

THE N. Y. County Medical Society had two entirely different tickets at the recent election for officers; one ticket represented the "old code," and the other "the new code" members. The latter ticket was elected by an actual majority of about 174—a decided defeat of "the old code" members.

MARRIED, near Columbia, Ala., October 11th, Miss Stella Thompson to Dr. J. T. Stovall. "*Sic iter ad astra.*"

THE One Hundredth Anniversary of Harvard Medical College occurred, with due pomp and ceremony, on the 17th of October, and the new building was dedicated on the same day. There was presented a portrait of Dr. O. W. Holmes, and also a bust of Dr. Bigelow.

THE *London Lancet* has been published for sixty years. It was founded by Mr. Wakley, who edited it for thirty-eight years. It is now edited by his son, Dr. Wakley, who has had charge of it for twenty-two years. It is difficult to say who has done better, father or son; both have done wonderfully well.

THE CHRISTIAN MEDICAL COLLEGE—SOMETHING NEW.—At the recent opening of the autumn session of a medical college, the President of the Faculty informed his audience that it was the only medical institution founded in the Christian religion, as all the members of the Faculty are required to be Christians, and the establishment of a pulpit is under consideration!

A NEW Medical College in Cincinnati has been organized, under the title of the Medical University of Ohio.

M. VICTOR ST. PAUL has placed $5,000 at the disposal of the Paris Academy of Medicine as a prize to any person, whatever may be his vocation or nationality, who shall succeed in discovering an infallible means of curing diphtheria.

HONORS to PROFESSOR LISTER.—Professor Lister, who recently spent some days in Pesth, was warmly welcomed on the part of the medical faculty of the

University there. The professors gave a banquet in his honor, and the students arranged a torchlight procession to the great surgeon.

Professor Zeiss, of Vienna, Physician to the General Hospital, has been raised to the rank of nobility, upon the occasion of his retirement from active work. He has made many contributions to syphilology.

Garfield Memorial Hospital.—The erection of the new Garfield Memorial Hospital in Washingion has been commenced on the ground recently purchased by the Hospital Association at the head of Tenth street.

A consignment of very lively leeches was among the first day's receipts at the General Post Office in London on the inauguration of the new parcels post. The box containing them was a very slight one, and, becoming fractured in transit, the contents escaped, and traversed the establishment in search of a "subject."

Memorial Tablet to M. Thuillier.—A tablet commemorative of the public services of M. Thuillier, and his untimely death of the disease whose nature and causes he had accompanied M. Pasteur to Egypt to investigate, will be placed in the Normal School at Paris, of which he was a graduate.

Bismarck.—His wife is a homœopath, and also has much faith in a nerve medicine made of magpies' wings, designed especially as a cure for epilepsy. Such therapeutic medicines as these are sandwiched in (and sometimes combined with) the treatment of men like Professor Frerichs. The present attendant is a young man of thirty-three, somewhat notorious for social scandals in Munich. —[Note.—With such facts, who can blame those of weaker brain for patronizing quackery?]

The *Medical Press* (September 5th) contains the report of a case of hydrophobia occurring four hundred and fifty days after the bite which caused it. The animal showed marked signs of rabies at the time, but the wound had been thoroughly cauterized with a hot iron.

Dr. Tanner Arrested.—Jamestown, N.Y., Oct. 9.—Dr. H. S. Tanner, of fasting fame, was arrested this afternoon on a charge of not being properly registered in the County Clerk's Office. He has a diploma from the Eclectic Medical Institute dated February 2, 1859, indorsed by the United States Medical College, of New York, which is not a legal institution. Dr. Tanner is the third eclectic physician who has been arrested here recently on information lodged by the Secretary of the Chautauqua Board of Censors. He claims it is an effort of the regulators to suppress the eclectics. He intends to make this a test case.

Dr. Roswell Park, of the *Weekly Medical Review*, has announced his removal from Chicago to Buffalo, to take the professorship of surgery in the Buffalo Medical College.

The Board of Health of New York, in view of the great prevalence of typhoid fever in the city, has issued an official address, urging the public to use every precaution against the spread of the epidemic.

The Extension of Vice.—Prof. J. Edwards Smith has devoted a year to the study and discovery of adulterations in homœopathic medicines. When adulteration strikes the attenuated gossamer fabric of the *sim. sim. cur.* materia medica, we may well believe that vice reaches every fibre of our social system.—*N. Y. Med. Record.*

DR. B. H. PHELPS, of Corry, Penn., having read his own obituary in an Erie paper, writes to thank the editor for its kindly tone, but protests that he is still in the flesh and able to give death a shot that makes him loose his hold of most of his (the doctor's) patients. He concludes with: "Hoping your paper will live to record the death of many of the noble and good before my time comes again, I remain yours till death."

ON the proposition of the Academy of Medicine of Paris, the Minister of Commerce has just distributed a certain number of rewards to those individuals who have distinguished themselves by having made the largest number of vaccinations, or by having contributed to the propagation of vaccination in France and her colonies during the year 1881. The first prize of 1,500 francs was divided between M. Longet of Orleans, M. Mazaé-Azéma of Réunion Isle, and M. Petit of Zammorahs, Algiers.

DR. JOHN J. ZITZER, an old surgeon, died at Baltimore, Md., October 30. He had a remarkable career. He was a native of Prussia, and was descended from an old aristocratic German family. After being graduated from a leading medical school in Europe, he entered the Prussian army, in which he had a noted career. He was banished from Prussia for his extreme political views, and went to Hungary, where, in 1848, he was made Surgeon-General of the Hungarian Army. Three years afterward he resigned that position, came to America, and settled in Carlisle, Penn. During the war he was Surgeon-General of the State of Pennsylvania.

NOVEL MODE OF BLEEDING.—The latest mode of blood-letting is given in a late number of the *British Medical Journal* by Dr. Charles Coppinger, who relieved a serious cerebral congestion by introducing the aspirator needle into the external jugular vein and abstracting at first four ounces of blood, and half-an-hour later six ounces more. The patient was a fat and plethoric lady fifty years of age.

THE TEXAS COURIER-RECORD OF MEDICINE.—We have received the first number of this new monthly journal. It is edited with spirit and enterprise by Drs. F. E. Daniel and E. L. Stroud, Fort Worth, Texas.

WINNIPEG will have a Medical School.

DR. BURDON-SANDERSON.—The sum of $50,000 has been voted for the erection of a physiological laboratory for Dr. Burdon-Sanderson, at Oxford.

THE DOCTORS' NEW STEED.—An excellent magazine for cyclists is the *Wheelman*, published by the Wheelman Company, Boston, Mass., the first number of vol. iii. of which has come to hand. Amongst a variety of entertaining matter is an article by Dr. G. Hull, on "Physicians and the Bicycle," and another by Dr. W. Thornton Parker, headed "A New Remedy"—which, it is hardly needful to say, is the steel and rubber steed.

THE EYE AND EAR INFIRMARY.—The annual report of the New York Eye and Ear Infirmary was read October 23, at a meeting of its Board of Directors, and showed that during the past year 50,115 patients were treated at the infirmary—an average for every work-day of more than 160. The number of free beds at present at the disposition of the surgeons is entirely inadequate, and, though many persons come to the infirmary for treatment requiring careful nursing and hospital treatment, they are obliged to refuse to admit them.

KOCH'S INVESTIGATIONS OF CHOLERA.—Dr. Koch, of the German Commission which went to Egypt to investigate the cholera epidemic, reports that he has discovered that cholera is due to a living thread-like microscopic organism, resembling that seen in cases of phthisis.

A PHYSICIAN TO BE EXPELLED.—New Haven, Conn., Oct. 25.—At the semi-annual meeting of the New Haven County Medical Association to-day the case, of Dr. E. L. R. Thompson, a physician of large practice, who was recently indicted for illegal practice, was brought up. A motion that he be expelled was unanimously carried, subject to the consent of the State Medical Association.

LEPROSY.—The treatment of leprosy is becoming a hard problem in India. In the Bombay Presidency 9,483 cases are under treatment.

PRINCE BISMARCK is said to be a particularly intractable and ungrateful patient. He suffers from neuralgia, trifacial and sciatic, and gives his doctor a certain number of days in which to cure him. If the physician fails he is discharged.

YELLOW FEVER appears to be prevalent at Panama. The records, however, are defective, owing, it is said, to the managers of the canal being apprehensive that injurious reports may affect unfavorably their ability to procure laborers on the works.

A NEW FIBROID.—A jury in Mercer County, Ohio, recently gave the plaintiff in a breach of promise case $3,000 damages, the defendant claiming that he had broken off the engagement because a fibrous polypus tumor had developed in her uterus. The plaintiff alleged that the tumor was produced by and resulted from protracted courtship, causing her to brood upon her prospective entry into married life.—*College and Clinical Record.*

THE COUNT DE CHAMBORD.—The death of the Count de Chambord, which was anticipated some time since, took place on Friday, the 24th of September. The necropsy was performed in the presence of Drs. Drasche and Mayer of Vienna, and Professor Vulpian, who was re-summoned from Paris, but who arrived at Frohsdorf just as the much-regretted Prince had breathed his last. The lesions found were ulceration of the stomach and of the lower end of the œsophagus, slight atrophy of the kidneys, fatty degeneration of the heart, and an atheromatous condition of the aorta. The body was embalmed by Professor Conrad of Vienna.

DEATH OF LOUISE LATEAU.—The death is announced of Louise Lateau, the Belgian stigmatisée, of Bois d'Haine. She was thirty-three years and seven months of age at the time of her death. Her case excited considerable interest at one time, and she was subjected to numerous medical investigations. Virchow, it is said, was asked to see her, but was unable to do so. On every Friday, it was said, she fell into a state of ecstacy, and blood flowed from the stigmata in her hands and feet.

AT the last meeting of the Board of Health, Sanitary Superintendent Day presented a summary of the work performed by the summer auxiliary corps of visiting physicians. During their term of service they visited 43,915 houses, containing 198,932 families, prescribed for 6,601 patients, and distributed 24,631 health circulars and 5,195 tickets for the excursions of the Floating Hospital of St. John's Guild. Of the patients treated 3,264 suffered from diarrhœal diseases, 986 from diseases of the respiratory organs, 285 from contagious diseases, and 2,086 from miscellaneous diseases.

CREMATION.—The immense crematory at Rome is in almost daily use. Cremation is daily becoming more popular, and bids fair soon to dispose of more corpses in the Italian capital than old-fashioned burial.

THE Michigan Legislature has passed, by a nearly unanimous vote, a bill requiring school teachers to pass an examination in physiology and hygiene, with particular reference to the effects of stimulants and narcotics on the human system.

AT a recent meeting of the Academy of Sciences, in Paris, M. Crechel drew attention to the practice of adulterating milk with glucose, which does not alter its specific gravity, but gives it a sweet pleasant flavor.

THE *Philadelphia Medical Times* has passed under the exclusive editorial control of Dr. Frank Woodbury. He has the best wishes of this journal for success.

THE MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—Dr. William S. Janney has been elected professor of practical anatomy and clinical surgery in the college. Dr. Janney is the present coroner of the City of Philadelphia, and is well known to the profession as an anatomist and surgeon of extended experience.

DURING the past summer the Floating Hospital of St. John's Guild made thirty-two regular excursions, on which 19,564 children and mothers were carried, and twelve extra excursions, on which 9,625 were carried; making a total of 29,189 persons who were given the benefit of sea air.

DR. CHARLES WRIGHT, senior medical examiner of the New York Life Insurance Company, died in London, Eng., September 2d, of congestion of the lungs resulting from Bright's disease.

FREDERICK D. LENTE, M.D.—Dr. Frederick D. Lente, an eminent physician and surgeon, died in October, at Cold Spring, Putnam County, N. Y., in the sixtieth year of his age, of cerebro-spinal meningitis. Dr. Lente was born at Newbern, N. C., in 1823, and was a graduate of both the University of that State and of the University Medical College of New York. After leaving the latter college he studied for a time under Dr. Alfred C. Post, and was afterward under Dr. Valentine Mott, for two years, on the house-staff of the old New York Hospital, which at that time had attained its greatest reputation. In 1851 he was appointed surgeon of the West Point Foundry, at Cold Spring, and filled that position until 1870, when he came to this city, and was almost immediately appointed to the Chair of Gynecology and Diseases of Children at the University Medical College. He filled other positions of honor and influence in this city, but in 1871 he was compelled to give them up on account of threatened failure of his health. He returned to Cold Spring, and, resuming his former position there, remained until 1875, when he once more left it and entered upon the practice of his profession at Palatka, Fla., during the winter months, and at Saratoga Springs in the summer. Dr. Lente was one of the founders of the

American Academy of Medicine, and its first president, and at the time of his death he was a member of the Neurological, the Pathological, and the New York and Duchess County Medical Societies, the American Public Health Association, the Board of Managers of the Hudson River State Hospital, corresponding member of the New York Medico-Legal Society, and honorary member of the North Carolina Medical Society. Dr. Lente had an extensive acquaintance and reputation through the Northern and Southern States as a general practitioner. He did not confine his exertions solely to the practice of his profession, but contributed freely to current medical literature, and was also the inventor of several surgeon's instruments. Every work that Dr. Lente was engaged upon was done with a thoroughness and exactness that made those features his chief characteristics as a physician.

NURSES FOR THE SICK ROOM.—GRADUATING A CLASS OF SEVENTEEN FROM THE CHARITY HOSPITAL.—The seventh annual commencement of the Training School for Nurses of the Charity and Maternity Hospitals, on Blackwell's Island, was celebrated October 25th, and 17 trained nurses were graduated. Several hundred ladies and gentlemen were present at the ceremonies, which were held in one of the ward-rooms of the Charity Hospital. Ex-Mayor William H. Wickham presided.

A CHAIR OF HOMŒOPATHY.—A homœopathic physician at Vienna has left a large sum of money for the establishment of a Homœopathic Chair in the Vienna University, but the Austrian Government has declined to accept it.—*Chicago Medical Journal*, *September*, 1883.

LEONARD D. GALE.—Dr. Leonard D. Gale, at one time well known in scientific circles, died in Washington on October 22, in the eighty-fourth year of his age. He was graduated from the College of Physicians and Surgeons, in this city, in 1830, and was soon afterward employed as Assistant Professor of Chemistry in that institution. Later he was Professor of Chemistry in the New York College of Pharmacy, and Professor of Chemistry, Geology, and Mineralogy in the University of New York. While holding the latter position, in 1834, he rendered invaluable aid to his fellow-Professor, S. F. B. Morse, in the perfection of the electric telegraph, bringing to his knowledge the discoveries of Professor Henry, the application of which to the Morse machine assured its success. In 1833 Dr. Gale made a geological survey of the island on which New York is built, and in 1843, assisted Professor Morse in the construction of the first telegraph line between Washington and Baltimore. From 1846 to 1857 he was an Examiner of Patents, having charge of the Department of Chemistry, and was afterward, for many years, engaged in the practice of patent law in Washington.

M. JEAN DE PAUL, the distinguished French surgeon and author of various works on surgery, is dead.

ON the 26th of July Dr. F. Langé, one of the visiting surgeons to Bellevue Hospital, performed the rare operation of ligating the common iliac artery, in the amphitheatre of the hospital, with the assistance of Drs. Charles McBurney, Samuel Lewengood, house surgeon, and others, and in the presence of a considerable number of physicians and surgeons. It was undertaken for a large aneurism of the external iliac, and at the end of a week there was a fair prospect of the patient's recovery.

HARVEY.—The sarcophagus designed for the remains of Harvey and placed in

Hempstead Church, has a bottom base 8 feet long by 4 wide, upon which is a molding supporting the block that contains the leaden coffin in which are the remains. The block is paneled on all sides. On the end it has engraved in solid lead the words: " William Harvey, born 1578, died 1657." One of the sides bears another inscription: " The remains of William Harvey, the discoverer of the circulation of the blood, were reverently placed in this sarcophagus by the Royal College of Physicians, of London, in the year 1883."

REVIEWS.

THE PATHOLOGY AND TREATMENT OF THE DISEASES OF WOMEN. By GRAILY HEWITT, M.D. (Lond.), F.R.C.P., Professor of Midwifery and Diseases of Women, University College, and Obstetric Physician to the Hospital, etc. New American from the fourth revised and enlarged London edition, with two hundred and thirty-six illustrations, edited, with notes and additions, by HARRY MARION SIMS, M.D., Attending Surgeon to St. Elizabeth's Hospital, New York. Vols. I. and II. New York: Bermingham & Co., 1883. Price, $2.25 per volume.

This is the most recent edition of this old and familiar work. It bears evidences of the recent labors of its distinguished author, and of very valuable work on the part of its American editor, Dr. Harry Marion Sims, who has contributed fully seventy pages of original matter. His notes and comments are concise and excellent. The work is very superior. It is profusely and well illustrated.

It is " too late in the day " to review "Hewitt on Diseases of Women," for every physician of average erudition is perfectly familiar with it. The original work done by Dr. Sims gives to the book, in this country and elsewhere, increased value; and all who purchase it will be glad to see the evidences of so much good and honest labor on the part of one whose father is loved and respected by every American physician.

It would be impossible, however, to close this notice without calling attention to the fact that Dr. Hewitt's teachings are believed, by very many practical and advanced students, to belong rather to the domain of theory than to that of fact. He is one of the most absolute teachers of the mechanical system of uterine pathology, and believes that most of the ills of the uterus are due to mechanical causes; that if these mechanical causes be mechanically relieved, presto, all is well again, and well only if such mechanical work be done—"*causa sublata tollitur effectus.*"

Dr. Hewitt believes that many of the uterine flexions, which recent studies prove to be often physiological and harmless, are always pathological in character, and full of evil unless mechanically relieved.

Vedeler and Herman, the results of whose practical researches are given elsewhere in this number of the JOURNAL, have demonstrated that less than 16 per cent. of women have the uterus in normal position; that in 74 per cent. of healthy multiparous women, the uterus was either ante-flexed or anteverted; and that uterine flexions have but little if anything to do with menstrual pain and suffering.

If these published statements be the truth, the teachings of Dr. Hewitt as to the dire effects of uterine displacements are nearly worthless, and the operations for their mechanical relief are censurable and injurious.

These volumes are published with great care, and they present an appearance most creditable to the publisher.

An Encyclopedic Index of Medicine and Surgery. Edited by Edward J. Bermingham, A.M., M.D. Contributors: Aitken, Barker, Beard, Bermingham, Birkett, Bozeman, Bristowe, Callender, Alonzo Clark, J. Lockhart Clarke, Ellis, Hamilton, Hammond, Henna, Holmes, Hutchinson, Jacobi, Jenner, Juler, Keetly, Morris, Otis, Parker, Piffard, Playfair, Pomeroy, Post, Reynolds, Roberts, Sands, Heywood Smith, T. Smith, Esq., Taylor, Thomas, and Sir H. Thompson. New York: Bermingham & Co., 1882. Price, sheep, $6.00; cloth, $5.00.

When this work was announced, the profession very naturally supposed that the "contributors" named were to furnish original matter, and that the labors of the editor were to be almost nominal in character, but the amount of original matter is exceedingly small, while the volume is made up of old matter industriously and laboriously compiled by the editor. In this respect, everyone must feel a very great disappointment; and more particularly if, with a fair library, he has, as he must have, in original form, the matter which "the contributors" named on the title page represent in this volume.

The selections and compilations of the editor are so well made that he has as a result secured a most excellent volume; one of very decided value. He has, however, given too much space to very insignificant, or very rare diseases, while to the most important he has not furnished room sufficient for their satisfactory elucidation. The cross references in the index are too meagre, and synonymous titles are very often omitted. The book is worthy of better paper and finish, for it is one which will be often consulted by its purchasers.

Dr. Breen's Practice.—It is probable that physicians, who have to deal so much with the concrete, hardly realize how entirely realistic and scientific methods have affected literature and art. Our pictures now aim at positive sensual effects. They are studies in form and color, combined to produce languishing impressions—never to excite the imagination or kindle ideas. Like our science, especially medical science, they are positive, caring for impressions as it cares for facts. The modern poet, of the "fleshly school," warbles only a kind of melodious sensuousness. He contributes "cases" of a peculiar form of rapture at the sight of a sunset, or of a new variety of melancholy over the death of a daisy. He "works up" his sensations as a doctor does his pathological specimens. In fiction this realistic tendency shows a little different phase. There is a school of modern novelists who make a study, not of moods of feeling, but of various phases of life and character. Certain selected persons are placed in a certain peculiar environment, and the resulting phenomena are watched and recorded. It is much as the chemist tests the reactions in his crucible, putting down the resulting equations, or as the pathologist studies the effects of an interesting drug or a unique neoplasm upon the living organism. "I wish," says a Parisian novelist, "to write a novel which will be simply a psychological and physiological study of a girl reared and educated in the hot-house of a capital—a novel constructed upon human documents."

In a work by Mr. Howells, entitled "Dr. Breen's Practice," we see an illustration of the scientific method applied to novel-writing, which will particularly interest the medical mind. The "Versuch Person" in this case is a bright and pretty New England girl who, by inheritance and education, possesses an overactive conscience and a profound, almost pathological, sensitiveness as to her "duty" towards humanity. She experiences an early disappointment in love, which leads her to the conviction that marriage henceforth is impossible.

Feeling that she must do something to make her life a useful and noble one, she studies medicine at a New York homœopathic college. Having graduated, she goes to a quiet New England sea-side town, and is there found, when the story begins, in professional charge of an old school friend with weak lungs, a weaker head, and a selfish and coquettish disposition. This lady having carelessly exposed herself in a storm is taken quite ill. She then shows so little confidence in Dr. Breen (the heroine) that the latter, after many mental struggles, decides to ask the neighboring country doctor in consultation. She therefore drives over and calls upon him. This gentleman is described in a very graphic way. He is a "born physician," a man somewhat rough, but of strong individuality and great natural capacity. He is thus described later, when in the sick chamber: "He was incredibly gentle and soft in all his movements, and perfectly kind without being at any moment unprofitably sympathetic. He knew when to listen and when not to listen, to learn everything from the quivering bundle of nerves before him without seeming to have learned anything alarming; he smiled when it would do her good to be laughed at, and treated her with such grave respect that she could not feel herself trifled with nor remember afterwards any point of neglect." Dr. Mulbridge, for that is his name, consents at first to meet Dr. Breen. Then, learning that she is a homœopathist, he refuses. The ensuing scene is an instructive contribution to the relations of homœopathy to regular medicine. "My reasons for refusing," says Dr. Mulbridge, who is much embarrassed and confused, "have no reference whatever to you in your own capacity, character, and individual quality. They are purely professional—that is, technical—I should say disciplinary—entirely disciplinary. Yes, disciplinary." The word seemed to afford Dr. Mulbridge the degree of relief which can only come from an exactly significant and luminously exegetic word.

Sense of duty to her patient compels Dr. Breen to accept the additional humiliation of giving up her patient to the new doctor, she herself acting only as nurse. The patient is cured, but the country doctor meanwhile falls in love with his nurse, who has herself, however, been falling in love with another gentleman. Dr. Mulbridge proposes, and argues his case with great eloquence, being willing, if necessary, to damn the State society and practice medicine with Miss Breen. But it is of no use. Dr. Breen, in view of a matrimonial alliance, gives up medicine and joins the ranks of wives and mothers.

We look for some moral as to the study of medicine by women, but none is directly given. We are shown, rather, that a woman's nature will assert itself though stifled for a time by scientific study and the burden of a morbid asceticism. These two things are pictured to the reader somewhat as neoplastic growths, which are removed by the skilful surgery of Cupid. Medical studies and practices may be a normal addition to some women's lives, but none to the woman whom Mr. Howell likes to present.

THE LAW OF HEREDITY. A study of the Cause of Variation and the Origin of Living Organisms. By W. K. BROOKS, Associate in Biology, Johns Hopkins University. Baltimore: John Murphy & Co., 1883. (*Times.*)

One of the commonest arguments against Christianity, urged by atheists of the weak variety, represented by Ingersoll, is the old objection to a special interference by God in the course of nature, when Christ was born of a virgin. "Partheno-genesis," or virgin child-birth, is so utterly foreign to what we see in animal nature that the demand on credulity has been thought excessive by people troubled with doubts, and especially by persons belonging to other religions who have investigated Christianity with a view to accepting it if possible. Now, it is true that we know of no cases where virgins have borne children, nor among beasts and birds where the female has conceived without the presence of a male. But among marine animals and land insects of very complicated structure and unusually high degree of instinctive intelligence, "partheno-genesis" has been found to obtain to a degree little suspected heretofore. In certain crustaceans the females can be kept in ponds entirely without means of communicating with males, and will there spawn, and their children spawn in turn for generation after generation, just as a plant can be propagated by cuttings without recurring to fertilized seeds. And each generation is female. If now the males are put in the pond, the only difference is that the mothers produce male as well as female children. Bees also reproduce for generations without males. Such extraordinary deviations from what we consider the normal course of events have made naturalists more cautious in generalizing on the intricate subject of heredity. Darwin, Wallace, St. George Mivart, and others have been very circumspect in this matter, and more than any, Darwin. On the other hand, Haeckel is more apt to jump to conclusions. Mr. W. K. Brooks, who is comparatively unknown, except as a contributor to the magazines, has therefore entered a field already occupied by thinkers of the highest rank, and comes to conclusions on a matter that affects profoundly the views we must entertain concerning the existence of life, whether in its origin or its history, its meaning now and its possible variations hereafter. If his views can be accepted, the matter of breeding domestic animals is one which will receive new light, and it can be easily shown that the importance to man of improved breeds of animals is enormous. The relations of the human sexes must be held to be far more important, so that any closer definition of the part which male and female have played in the past will bring us nearer to an understanding of the proper spheres of action of man and of woman in life. The correct apprehension of their physical relationship will give us a clue to their mental and psychical resemblances and differences, and result in the promotion of wiser education for boys and girls, and wiser legislation in matters wherein sex enters as an important qualification. The bearings of the subject are, in truth, so very far-reaching that it would be difficult to name any human pursuit which is not touched by it in some way.

Darwin and Wallace examined the subject of heredity so exhaustively that it seemed as if no aspect had been left untested; and when Mr. Brooks dedicates his book "To Charles Darwin, from whose store of published facts I have drawn most of the material for this volume," he only acknowledges a just debt to the great English naturalist. But Darwin until the day of his death was far from feeling secure of his theory at all points. While he could not fail to believe in it as a whole, he saw, more clearly than any one, the many weaks spots in his argument, and trusted to time and the work of future natural historians to correct and adjust his scheme until the fabric should become solid throughout. It is extremely probable that Mr. W. K. Brooks has discovered a highly important factor overlooked by Darwin, or rather refused by Darwin the weight that should be accorded it. Darwin held that male and female gave equal elements to their combined offspring, and therefore found in partheno-genesis a very serious stumbling block. Mr. Brooks holds that in very low forms of animals and plants the paternal and maternal elements balance each other, neither contributing to the offspring perceptibly different characteristics. But as we rise in the animal scale, the great law of division of labor asserts itself. The female remains true to her share in the offspring, handing on all the parts that belong to the race and offering little or no trace of a tendency to vary from the race-type. The male, on the other hand, leads a more adventurous life and imprints on his share of the common organization the tendency to vary. The mother gives the type and the father the chance to vary from the type. It will be seen at once how far-reaching this aspect of the problem is when considered in connection with the great generalizations made by Darwin concerning variation, and the part variation has played in the advance of animal life from soulless organizations up to man. In the evolution of races, if we are persuaded by Mr. Brooks, we are now to consider that the male has always led and the female followed; the male has made the smaller or greater forward steps, the female has treasured up for the race any of those steps which were beneficial. In connection with the same modification of Darwin's broad theory, Mr. Brooks very ingeniously shows the high probability of what other naturalists, Le Conte, of California, among others, have guessed as an explanation for the apparent inadequacy of time for the development of all the minute changes demanded by Darwin's theory to account for higher animals. The geological record, on the one hand, points to what used to be called cataclysms, during which whole races of animals were apparently killed off and new and higher animals introduced. Or else it points to evolution in jumps—saltatory evolution. The cosmical record, on the other hand—as read by astronomers and students of the disposition of the strata in which fossils are found—gave a still more unsatisfactory answer to Darwin's claim, for Darwin demanded epochs for evolution so immensely long that it was as good as demanding infinity of time. These vexatious and almost insurmountable objections are met by accepting Mr. Brooks's theory. Starting from Darwin's "pangenesis" hypothesis, that the male seed and the female egg treasure up "gemmules," or infinitely minute germs proceeding from all parts of the male and female bodies respectively, he considers that, while the female has always faithfully reproduced itself (as we see it do without male assistance in "parthenogenesis"), the male has ceased supplying "gemmules" for all parts of its body and confined its function to collecting into its procreative element such gemmules as are thrown off from those tissues of its body which have suffered strain or other change. But, furthermore, the introduction of such gemmules into the composition of the offspring creates in that offspring a further tendency to change. This part of the argument he supports by the facts, chiefly collected and collated by Darwin, observed in hybrid animals and hybrid plants. It will be at once seen how this may explain the geological record, for it gives a reason for the sudden appearance of a whole congeries of new plants or animals in the past, and for the sudden springing up in the present, among domesticated animals and birds, and among cultivated plants, of new sets of varieties. It also explains why domestication makes animals and plants extremely variable, for domestication is itself a tremendous change from the wild state, and sets free those "gemmules" in the male which cause variation to occur easily in the offspring. Botanists have found in plants that there is great tendency to change after the race-type had been once broken. This part of the theory meets moreover another and very serious objection acknowledged handsomely by Darwin, namely, that a single "sport" or variation would not have any chance to propagate itself against the overwhelming mass of individuals not so varied. Mr. Brooks's hypothesis not only goes deeper but stretches wider. Not one, not twenty, but a hundred individuals might be "inoculated," with the tendency to vary in the same way.

Of course, it is not to be supposed that this theory has the actuality of a mathemathical proposition, nor that, if accepted, it will remove all the objections to the theory of evolution as sketched out by Kant and Lamarck, and then drawn in magnificent masses by Darwin, and further helped by Müller, Huxley, Haeckel, and others. It is, however, quite certain to make a stir, and stamps Mr. W. K. Brooks as a biologist of very extraordinary promise. His treatise is an honor to the Johns Hopkins University, and cause for pride to the United States. One could have wished that the volume had been presented in better shape, for its illustrations are rather worse than none at all, and a number typographical errors occur. In one case pages have been interchanged, though the numbers of the pages read consecutively.

THE MEDICAL LANGUAGE OF ST. LUKE. A proof from internal evidence that "The Gospel according to St. Luke," and "The Acts of the Apostles," were written by the same person, and that the writer was a medical man. By the Rev. WILLIAM KIRK HOBART, LL.D., Ex-Scholar, Trinity College, Dublin. Dublin: Hodges, Figgis & Co. London: Longmans, Green & Co. 1882.

This interesting and learned work is a thorough and critical examination of the Gospel according to St. Luke and the Acts of the Apostles, with a view to detecting every form of speech and turn of thought, as expressed in the Greek original, which would lead one to believe that the writer was either a practicing physician himself, or had at least been thoroughly trained in the medical science of his day. The author has carried out his investigation of the subject with the most painstaking accuracy. His field has been hitherto unoccupied; for, while various commentators have now and then noted the greater precision and minuteness of St. Luke, in describing the details of the miracles of healing, no one has ever investigated the language of the author of the Third Gospel and the Acts, with a view of deducing therefrom an unanswerable body of evidence, in support of the ancient tradition of the Church, that their author was a medical man, the same, indeed, whom St. Paul calls "Luke, the beloved Physician." The conclusions at which the author has arrived, after the most minute study of the Greek text, and comparison of it with the standard medical works of the ancients, are briefly summarized in the introduction of the work. But the work itself ought to be read by every student of the New Testament, for it furnishes remarkable proof of the fact that the writer of the Third Gospel and the Acts was a medical man of no mean degree of education in the science. St. Luke uses a number of words which were either distinctly technical medical terms or commonly employed in medical language; he uses the same compounds of the simple words which medical writers employ; words which were used in medical language in some special relation, *e. g.*, for the distribution of nourishment, the blood, the nerves, are common in St. Luke; there are some words which are peculiar to St. Luke and the medical writers, in the sense which they bear in St. Luke's writings; and, what seems very convincing as a matter of evidence, there is a perpetual recurrence, an unconscious choice of medical terms and distinctions, in the language of the writer. A large number of instances of this last-mentioned class of words are noted by the author. They afford most conclusive evidence of the truth of the author's proposition, because none but a practiced physician, a well-trained medical man, accustomed by ingrained habit to view everything from his professional standpoint, would be likely to use professional language in describing the events narrated. Of course, the evidence is cumulative in character. A few instances would be insufficient for proof, but the author adduces more than four hundred words used either directly in a medical sense, or else such words as a physician would be in the habit of employing in conversing and writing. All these instances are copiously illustrated by extracts from the Greek medical writers, Hippocrates, Galen, etc. One can cordially commend this volume.

A NEW SCHOOL PHYSIOLOGY. By RICHARD J. DUNGLISON, A.M., M.D., &c. 12mo. 314 pages. Philadelphia: Porter & Coates.

When the first edition of this work appeared, it was carefully reviewed and was proved to be a tissue of errors; errors both of omission and commission. These blunders showed, too, an ignorance of very many of the most elementary truths in physiology. What is best in this book must have been compiled, for the work is chiefly a compilation. Surely no physiologist of repute could make the puerile errors of which the book is so full. Indeed, one might almost say that he blunders of the work constitute its chief claim to originality.

The diction is very bad: incorrect as well as inelegant, and the whole work bears evidence of slovenly preparation by a writer who, judged by the book, is unfit for the rôle of a physiological teacher. Surely the author cannot, in all charity, be as ignorant as he appears in his work to be. As a "school physiology" the book cannot be too strongly condemned.

INSANITY: ITS CLASSIFICATION, DIAGNOSIS AND TREATMENT. A manual for students and practitioners of medicine. By E. C. SPITZKA, M.D., Professor of Medical Jurisprudence and of the Anatomy and Physiology of the Nervous System at the New York Post-graduate School of Medicine, etc. New York: Bermingham & Co. 1883. Price, $3.00.

A review of this most excellent work has already appeared in this journal—the book is in every respect excellent.

A MANUAL OF CHEMICAL ANALYSIS AS APPLIED TO THE EXAMINATION OF MEDICINAL CHEMICALS. A guide for the determination of their identity and equality, and for the detection of impurities and adulterations. For the use of pharmacists, physicians, druggists, manufacturing chemists, and pharmaceutical and medical students. Third edition, thoroughly revised and greatly enlarged. By FREDERICK HOFFMANS, A.M., Ph.D., Public Analyist to the State of New York; and Frederick B. Power, Ph.D., Professor of Analytical Chemistry in the Philadelphia College of Pharmacy. Philadelphia: Henry C. Lea's Son & Co. 1883. 8vo. pp. 624.

It is just ten years since this work was first published, and, as is well known, great activity has prevailed in chemistry during that period, and since the medicinal use of definite compounds is continually increasing, the improvements in the processes, methods, and products of chemistry have necessarily had a decided influence upon pharmacy. This work is too well known to require notice further than that of unqualified commendation.

THE AUSTRALASIAN MEDICAL GAZETTE. Vol. II., No. 8. The official organ of the Combined Australian Branches of the British Medical Association. Sydney, Australia: L. Bruck, publisher.

This one of the two medical journals published and supported in that great island of the ocean, shows that medical men wherever situated are always able to take care of themselves and their literature. It is a good journal.

DIO LEWIS' MONTHLY. Vol. I., No. 1.

This journal is devoted to the popularization of sanitary science and to making the study of the body simple and interesting. It is a magazine of 120 pages, and its contents present a variety of articles of much interest to the public reader. It is edited by Dio Lewis, and published by Clarke Brothers, 68 and 69 Bible House, New York City, at $2.50 per annum. Single number, 25 cents.

TREATMENT OF DISEASES OF INFANCY AND CHILDHOOD, with over four hundred formulæ and prescriptions, as exemplified in the services of Drs. A. Jacobi, J. Lewis Smith, Alonzo Clark, Austin Flint, Hammond, Loomis, Thompson, Riply, Thomas, &c., &c., and in the hospitals of New York City. By CHARLES H. GOODWIN, M.D. New York: 245 West Fifty-third Street. 1883. Price, $2.50.

The treatment here given is not the author's, but a compilation of the views of others. The book is divided into VI. parts. Part 1st, to general diseases;

2d, to diseases of the air-passages; 3d, to diseases of the digestive organs; 4th, to the brain and nervous system; 5th, to fevers, and 6th, to skin diseases. The author cites his prescriptions from the medical authorities of New York.

THE ROLLER BANDAGE. By WILLIAM BARTA HOPKINS, M.D., &c. With 73 illustrations. 12mo. pp. 95. Philadelphia: J. B. Lippincott & Co. 1883.

This is a very excellent manual, and is well worthy of a place in the physician's library. The author has done his work excellently well. Some of the cuts are very bad.

THE PATHOLOGY AND TREATMENT OF THE DISEASES OF THE OVARIES (being the Hastings Essay for 1873). By LAWSON TAIT, F.R.C.S. Fourth edition, re-written and enlarged. 8vo. pp. 357 Wm. Wood & Co. Cloth, $3.50.

This work has been too familiar to the profession to need notice. It is, however, very much more valuable than ever in its enlarged and modified form. It is a medical classic, and all should have a copy of it.

A MANUAL of PRACTICAL HYGIENE. By EDMUND A. PARKES, M.D., F.R.S. Edited by F. S. B. FRANCOIS DE CHAUMONTH, M.D., F.R.S. Sixth Edition. Illustrated. 8vo. pp. 731. P. Blakiston, Son & Co. Cloth, $6.00.

This most valuable classic has been rearranged, amended, and in many respects improved. Much that was old and erroneous has been eliminated, and much has been introduced to render the work what it ought to be and is, a really practical work on hygiene.

HYGIENIC AND SANATIVE MEASURES FOR CHRONIC CATARRHAL INFLAMMATION OF THE NOSE, THROAT AND EAR. Sixteen illustrations. Second Edition. By THOS. F. RUMBOLD, M.D., Professor of the Diseases of the Nose, Throat and Ear, in the College for Medical Practitioners of St. Louis, Mo., etc., etc. St. Louis, 1882. 12mo. pp. 190.

This book has been noticed before. It does not represent the subjects of which it treats in a creditable manner. It is superficial and incomplete, and the author still manifests his familiar crotchets.

THE ESSENTIALS OF PATHOLOGY. By D. TOD GILLIAM, M.D., Professor of Physiology, Starling Medical College; formerly Professor of General Pathology, Columbus Medical College, Columbus, Ohio. Philadelphia: P. Blakiston, Son & Co. 1883.

The illustrations in this book are all excellent, but not a single one is original. They are all copies, and no credit is given for them. The book is very good and is fairly written. The style is clear and the diction very respectable. The work cannot for a moment be compared, however, with that of Green, or Rindfleisch.

THE BOOK OF PRESCRIPTIONS, containing upwards of 3,000 prescriptions, etc. By HENRY BEASLEY. Sixth Edition. 16mo. pp. 593. P. Blakiston, Son & Co.

This old book is still good. The prescriptions are no better or no worse than those in other " books," but the miscellaneous matter is excellent and valuable.

MISCELLANEOUS.

Elephantiasis Arabum.—M. Cornil has recently had the opportunity of examining the tissues and organs of a case of elephantiasis Arabum, complicated with albuminuria. The spleen was enlarged and advanced in amyloid degeneration; the kidneys also presented amyloid and fatty changes, whilst the liver was simply fatty. The skin of the affected limbs is described as being irregularly mammillated, warty and ulcerated. The epidermis was greatly thickened, particularly the granular and horny layers. The papillæ were enlarged in all directions, composed of a loose connective tissue containing flat and round cells; the capillaries were dilated, thin-walled, and full of blood. The dermis was enormously thickened, and its dense tissue appeared as if infiltrated with a clear fluid, which could not be pressed out. The bundle of fibrous tissue ran mainly in two directions—some parallel to the surface, and others traversing these perpendicularly, and accompanying bloodvessels. The lymphatics were dilated into irregular spaces or rounded channels. The ducts of the sweat glands were much elongated, owing to the increased thickness of the cutis. Ulceration had occurred in several parts, destroying the papillary body; and micrococci, probably connected with the septic process, were found in vessels in the vicinity of the ulcers. The sciatic nerve and its branches and the anterior crural were about one-third larger than normal; the neurilemma and the surrounding connective tissue were notably thickened, and in some of the fibres the axis cylinders were broken up or wanting. The lymphatic glands were in a state of chronic inflammation. There was also some inflammation of the coats of the femoral artery and vein.

Suppression of Urine in a Child Lasting Five Days; Recovery. By Herbert E. Paxon, M.R.C.S.—Samuel C——, aged six, a pale, anæmic-looking child, was brought to me by his mother on the evening of January 5, with the statement that he "could not make water," and had passed none since the previous Thursday morning. The mother attributed the suppression to his having "caught cold." He was given a mixture containing bicarbonate of potash, tincture of hyoscyamus, and spirit of nitrous ether, and warm baths and linseed poultices over the loins were likewise ordered. I heard nothing whatever of the case until the following Sunday evening, when the mother came to my surgery and requested me to come and see her boy, as "he had not voided water and was very ill." Upon my arrival at the house, I found the child in great pain, so much so as to cause him to cry a great deal, and was informed that he was unable to pass his water, in spite of repeated efforts to micturate. Upon examination, I found no distension of the bladder; the percussion above the pubes for some inches was dull. In order to ascertain whether there was any urethral obstruction (as, for instance, urethral calculus), I administered chloroform, and passed, with great difficulty, a No. 5 gum-elastic catheter, but with a negative result. I then placed the child in a warm bath for some minutes, but with no relief to the symptoms. He was given three grains of calomel and a diuretic mixture containing ten minims of tincture of digitalis, and one scruple of acetate of potash with camphor water, every four hours, together with repeated warm baths and poultices to the loins. The next morning (January 8) I saw him at 10 a.m., and found no amelioration of the symptoms. He had passed no urine, had been very restless and drowsy, had vomited once or twice in the night, and had been in very severe pain. Beyond these symptoms there appeared no definite indication of the uræmic condition. The tongue was furred, and the bowels had been once relieved. I then gave the child a hypodermic injection of pilocarpine (one-tenth of a grain), and ordered the diuretic mixture to be continued, together with the warm baths and poultices. He was also given brandy and milk, in teaspoonfuls, every hour. I saw the patient again three hours afterwards, and found no alteration in his condition. No diaphoresis had occurred. He had vomited once. The drowsiness continued, but no convulsions had supervened. Upon my evening visit (9 P.M.) I found him very restless, in great pain, drowsy, and with the pupils widely dilated and fixed. He had had no convulsions, but occasional vomiting. The mother directed my attention to a swelling in the lumbar region, a soft, semi-fluctuating swelling, oval in shape, and about the size of a lemon, situated midway between the kidneys. This had appeared since my last visit. I repeated the injection of one-tenth of a grain of pilocarpine, and ordered a poultice to the swelling and the continuance of the warm baths. The brandy and milk and diuretic mixture also to be continued more frequently. The following day (January 9) I was informed by the mother on my morning visit that the child had passed about a pint of dark-colored urine (shown to me); that he had passed it with excruciating pain after a very restless night, with occasional vomiting. The child's condition appeared unchanged; the swelling, however, had disappeared. With the occurrence of a relapse two days afterwards, lasting twenty-four hours, the normal renal action was re-established, on which occasion the injection of pilocarpine was repeated, this time one-fifth of a grain was given, with the result of restoring the secretion.

It is interesting to note, in this case, the absence of diaphoresis consequent upon the injection of pilocarpine, the diuretic properties of the drug being more apparent. I may mention, however, that on the second injection slight diaphoresis was evident upon the face. The absence of uræmic symptoms is also noteworthy.—*Lancet.*

THE HISTOLOGY OF GONORRHŒA.—Professor Hamilton of Aberdeen, whose profound study of the histological conditions in bronchitis well qualifies him for the task, has been enabled to examine microscopically the condition of the urethra in acute gonorrhœa, opportunities for which must rarely occur. The epithelium of the urethra is disposed much as in the bronchus, in three strata—the deepest of flat cells, the middle of pear-shaped cells, and the superficial of columnar cells. In acute gonorrhœa the process consists mainly in an exaggerated and irregular proliferation of the deeper strata of cells, the cell production being so rapid that the discharge contains but few of the fully-developed columnar forms. The denudation of the surface in this process explains the scalding pain on micturition. The secretion of the mucous glands is increased, as in bronchial inflammation. There is also considerable corpuscular infiltration of the mucous membrane, leucocytes being accumulated in the subepithelial lymphatic spaces; and although there does not exist an elastic basement membrane, which Professor Hamilton believes to prevent the escape of these interstitial products on to the free surface in bronchitis, he doubts either if that occurs here, believing rather that the cellular exudations in the meshes of the mucosa are carried away by the lymph stream. There was not in this specimen any marked congestion of the bloodvessels; and the trabecular tissue of the penis was not abnormal, unless accumulated leucocytes in the cavernous spaces be so considered. Strictures are produced in chronic urethritis probably by the submucous tissue becoming cirrhosed and contracting upon the lumen; the absence of "fixed joints" indicating the difference in result from chronic bronchitis when the tubes are dilated. The tubules of the testicles and of the epididymus from the same case also showed marked catarrhal inflammation, being filled with débris and epithelial cells in all stages of disintegration; but there was no interstitial inflammation whatever. The paper is contained in the current number of the *Practitioner*, which is also enriched by a very lucid account of the pathology of dropsy from the editor's pen.—*Lancet.*

Recovery after the Passage of a Ramrod through the Brain.—Dr. G. Fisher reports an instance of recovery after severe injury to the brain, which recalls the well-known case of Dr. Harlow, of Vermont, in which a tamping-iron was forced through the head by a premature explosion. In this case, an iron ramrod was discharged during the loading of a gun. It entered the back to the right of the fourth dorsal vertebra, passed upward along the ribs, and through the muscles of the neck, and forced a passage through the skull and the brain, projecting out nearly twelve inches from the left side of the head. An incision was made in the neck, and the ramrod was forced back by a hammer and extracted through the wound thus made. The patient recovered, but lost the sight in the right eye. A ramrod being propelled in the same direction through a dead body, it was found that in its course through the neck no important nerves or vessels were injured. The instrument passed through the right optic foramen, tore the optic nerve, and passed through the fissure between the frontal lobes. The destruction of brain substance in this region was only a little over an inch in extent, and was confined to the anterior portion of the left frontal convolution. According to our present knowledge, such an injury should cause no motor or sensory disturbances. The author apprehended the appearance in time of insanity as the result of the accident.—*Centralbl. für Klin. Med.*, August 18, 1883.

Exercise *vs.* Bantingism.—Obesity is a disease—a gradual, yet a true perversion of a normal state, and therefore a disease—which from its continual irksomeness, apart from any worse symptoms, renders those who suffer from it particularly ready to accept any means of relief, reasonable or unreasonable, if only it will ease them of their burden. It would be superfluous to review the various systems professedly based on scientific principles, but really founded too often on fallacious reasoning, which have claimed to achieve this result. When one considers the slow development of this condition, its selection of certain individuals in preference to others who consume the same ingredients of diet, and the other circumstances of those affected, it is clear that there is some inherent state of being or habit of life which, more than mere quality of food, conduces to excessive fat formation. For its safe and effectual treatment, provided that the case be not of so long standing as to be beyond all treatment, this state must first be understood and regulated. It is well known that whatever interferes with oxidation, with due metamorphosis of digested food within the tissues, is apt to lead to its storage in the form of fat. This is true not only of fat itself but also, though in a much less degree, of substances—as albumen—far removed from it in the scale of chemical change. Such interference arises, on the one hand, from the ingestion of more food than can possibly undergo assimilation, especially if it be largely composed of carbohydrates ; on the other, from insufficient demand for formative material on the part of the tissue elements themselves, and this demand is proportionate to their loss by exertion. It is therefore necessary for health that consumption should be limited as nearly as may be to what is necessary for sustenance, and that discharge of waste and tissue demand should be at the same time encouraged by moderate bodily exercise. But, moreover, the limitation of food must be in its quantity rather than its kind. A certain mixed diet is requisite for healthy growth, and neither fatty, farinaceous, nor albuminoid material can be omitted from it in any considerable proportion without detriment to the general nutrition.

Variations of the Urinary Chlorides.—No one will deny that a more frequent examination of the constituents of the urine might lead to the acquisition of fresh knowledge. Even in our public clinical institutions the systematic estimation of the most important urinary constituent is not regularly carried out. A complete clinical account of the changes in the urine which attend the active stages of the rachitic process would probably be attended with important additions to medical science. Indeed, the same may be said of most acute diseases. In ordinary medical attainments, perhaps, the only piece of information with regard to the chlorides of the urine consists in the knowledge of the fact that there is a remarkable diminution of this ingredient in acute pneumonia. M. Burot has done well to draw attention to this unploughed field of clinical medicine. He has devised a simple apparatus for the purpose of estimating the chlorides. A small flask is furnished at its inferior extremity with an ampulla capable of holding just one cubic centimetre of urine. A pipette is obtained, gauged in tenths of a cubic centimetre. Another little flask containing a solution of argentic nitrate is used from which the pipette may suck up some of its contents by means of a ball of caoutchouc. A cubic centimetre of urine is first treated with a solution of potassic chromate. The solution of nitrate of silver of known strength is then dropped in by means of the pipette. The whole of the chlorides in the urine have been obtained as soon as the *café au lait* precipitate of chromate of silver appears. M. Burot found that the normal amount of chlorides in the urine was eleven grammes for every litre, consisting of ten grammes of chloride of sodium and one of chloride of calcium. In tuberculosis it was estimated that seventeen to eighteen grammes of chlorides per litre were discharged. But a diminution of the chlorides is of greater import, especially in acute affections. In pneumonia, when the temperature is much raised, the fall in chlorides is considerable. This diminution was not noted in broncho-pneumonia. But in the pneumonia of typhoid fever at the onset of death the chlorides completely vanished.

SHALL I LOCATE? AND WHERE?—In a paper with the above title (*Medical and Surgical Reporter*, September 22 and 29), Dr. George B. H. Swayze, of Philadelphia, makes the following sensible remarks:

"But does the city doctor have the easier life? No; one hundred dollars in the country will reach as far as three hundred to six hundred in large cities, according to location. With fees nearly the same among the general rank and file of the profession, it is self-evident that the city doctor must do extra work, must sustain extra wear and tear of body and mind to come out even. The perplexing uncertainties of a city establishment harass the lives of city physicians by day and by night. Hence, also, that so many city practitioners feel impelled to round out limited receipts by engaging every spare hour, needed for rest and recuperation, in the severe toils of authorship in some form. It is the pressure of current expenses, rather than the pleasure of overwork, that keeps so many pens busy turning out reports, reviews, essays and books; and hence the publication of so much that is speculative, artificial, unreliable, and unsatisfying to the mass of practitioners." . . . . "And it need not be imagined by physicians in the country that eminent college professors acquire fortunes by practice; many of the greatest and the best have died insolvent. In the accessible calm and relaxation that physicians find in country locations without detriment to pocket and prospects, there is a luxury of comfort unknown to the profession amid the almost pauseless din and hurry of city life. There may he always find equivalent substitutes for money, when money there is none—but such is not the case in cities; there he may be greeted by refreshing landscapes, expansion of scene, quiet for weariness, reflection and sociality, but not so in cities, where all is contracted, walled-in, hustle and tussle, with no rest to eye or ear, or nervous system, or head or heart, from year to year. Is it any wonder so many long to get away for even a little while to enjoy the needful peace of Nature's quiet in God's country?"

MEAT.—The value of meat as a food is due in a degree to its heat-producing properties, though in this respect it is surpassed by fatty and amyloid substances. It is as a tissue-building material, and as an excitant of assimilative changes in the tissues, both with regard to itself and to non-nitrogenous foods, that it is most useful. It is stimulant as well as nutritive, and it therefore holds a deservedly high place in the daily dietary. Experiment has shown that three-quarters of a pound of lean meat fairly represents the quantity per diem which, taken with other less nitrogenous matter, suffices to maintain a person of average size and weight in a normal state of health. Some there are who largely exceed this standard, eating freely of meat at every meal, and living all the time quiet, sedentary lives. Such carnivorous feeders sooner or later pay a penalty by suffering attacks of gout or other disorders of indulgence. But it is equally important to note that many others, especially women, healthy in all points but for their innutrition, are apt to err as far on the other side. Thus one meets with people who consume about a pound of butcher's meat in a week, or not even that. This fact has been fully brought out by Dr. Graily Hewitt, in his address to the Obstetrical Section at the recent meeting of the British Medical Association. He has likewise with much probability assigned this defect of diet as the chief cause of that general "weakness" which is so common among the antecedents of uterine displacement. The experience of many practitioners will confirm his observation. Different causes are at work to produce this kind of underfeeding—too rigid domestic economy, theoretical prejudices, the fastidious disinclination for food which comes of a languid indoor life without sufficient bodily exercise, tight lacing perhaps, and many more. These difficulties are all more or less removable, unless, indeed, where absolute poverty forms the impediment. No effort should be spared to remove them. The advantages derived from a diet containing a fair amount of solid animal food could not be obtained from a purely vegetable or milk regimen without either unnecessarily burdening the digestive system with much surplus material, or, on the other hand, requiring such revolutionary changes as to quantity and quality of food and times of eating as would probably altogether prevent its general adoption, even were that desirable, into household management. In our opinion, such changes are not desirable, as being inadequate to secure their purpose.—*Lancet.*

LADIES' DRESSES.—Dr. Horace Dobell, in a letter published in the London *Times* of September 18, draws attention to the bad effects of the "braces system of suspension" for women's dress. He urges that the hips, and not the shoulders, are the best part of the human frame for the support of weight. He adds that "braces restrict the elevation and antero-posterior expansion of the chest; and important as these movements are to men, they are far more so to women." There is doubtless much truth in Dr. Dobell's remarks, but his assertion that the system of suspension of the clothes from the shoulders is the outcome of the arguments used by "dress reformers" against tight lacing, will be seized by the ladies as a statement in favor of continuing the use of stays. The evils referred to by Dr. Dobell, doubtless, are often produced by the use of braces, and especially when a heavy weight is suspended. This weight is often unnecessarily great in consequence of the looseness of ladies' clothing. If, instead of hanging a quantity of loose clothes around the limbs, the garments covering these extremities were chiefly close-fitting, the weight of the clothing might be very much lessened, because when close to the body they preserve the warmth much better than when surrounding the limbs loosely. The principle of dual garments might be carried on without altering the external appearance of female dress; for, with the use of warm, close-fitting drawers, the outer skirts might be made in the usual manner, but of much less thickness and weight. Many ladies now wear neither stays nor suspenders, and yet experience no difficulty in supporting their skirts, chiefly upon the hips.

A Novel Uterine Supporter.—Holman S. Humphrey, M.D., of Janesville, Wis., in the *Medical Age:*

℞ Amyli..............................
Sacch. alb..........................ää ℥ j.
Finely pulv. chloride of sodium........ ʒ j.

M. Triturate thoroughly and put in a bottle; cork tightly.

With the patient placed in a good light, replace the uterus and introduce a long glass speculum of as large a diameter as can easily be used; then with a spatula place one or two drachms of the powder within the speculum, and, using a cotton swab, carry the powder up and pack Douglas cul-de-sac and all around the neck of the uterus with it, and as the speculum is slowly withdrawn starch the entire mucous membrane of the vagina. This will effectually prevent the uterus from descending through the vagina, and gives wonderful support to the vaginal walls; aids in curing leucorrhœa, and last, but not least, is an effectual bar to intercourse, and thus would become a great boon to many suffering women if generally used. Ordinarily the operation should be repeated twice weekly, but if there is profuse leucorrhœa it must be done oftener, and, before applying, the vagina should be well cleansed with a syringe and warm soap-suds. I have used this powder a great many times during the past ten years, and find it not only the best uterine supporter in prolapsed conditions, but also a direct tonic to the debilitated structures as well. The combination embodies within itself nearly all the constituents of the tissue, and hence cannot become detrimental by remaining several days within the vagina; the chloride, also, preventing decomposition.

Obstetric Aphorisms.—The following asphorisms have been revived from Dr. Blundell's lectures on midwifery. The quaintness of the language may interest as much as the directions may instruct:

"Aph. 1. *That Rude Midwifery is a Bloody Idol.*—Floodings, tremendous lacerations, inversions of the uterus, like those which now stand on the table before you. Such are the effects of obstetric violence, that unsatiate and gory Moloch, before whose bloody shrine so many thousands have been sacrificed, to be succeeded, in future years, by still more numerous victims.

"Aph 2. *That the Placenta is to be Seduced.*—Do not haul out the placenta; do not jerk out the placenta; do not tear out the placenta, leaving unobserved one-half of it in the cavity of the uterus. Do not lacerate and leave the membranes to form afterwards a receptacle for clots, or to alarm the patient by their unexpected appearance. *Arte non vi* must as usual be your device: lead, coax, seduce.

"Aph. 3. *Do not go Away and Leave a Second Child Behind.*—I am afraid that some one here present, notwithstanding the cautions of the morning, will hereafter remove the placenta when there is another fœtus in the uterus. He smiles, he bows, he retires; another child is born. Which of you all means to signalize himself by this dangerous folly?

"Aph. 4. *That by Removing the Plaoenta Asleep You may Invert the Uterus.*—Practitioners have sometimes unconsciously inverted the uterus, leaving it in that condition, an accident which can never happen to you, provided you forbear to remove the placenta till the womb be contracted. You may, however, drowse sometimes on the bedside as on these benches, and in these torpid and forgetful moments, carelessly abstracting the placenta, inversions may occur.

"Aph. 5. *An Accoucheur's Atrocious Member.*—Depend upon it if you do carry your hand into the uterus, on every occasion, to get away the placenta, some women will die at last, and die the victim of your mismanagement. At this moment, perhaps, some amiable but ill-fated creature blooms the life and light of her admiring circle, who must hereafter fall an untimely sacrifice to some cruel and ruthless arm now drowsily crossed in this theatre. Which of you is the owner of this atrocious member?

"Aph. 6. *Three Places where the Atrocious Member must not be Put.*—(Dr. Blundell shows preparation.)—Do not needlessly thrust the hand into the uterus; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Do not needlessly thrust the hands into the vagina; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Do not needlessly pass the hand into the genital fissure; that is the voice that issues from this preparation. He that hath ears to hear, let him hear it!

"Ah! the violence of an ignorant and savage hand.

"After examining these preparations, tell me is it too much to assert that in obstetrics a thrust of the hand is more dreadful than a thrust of the bayonet? Could the field of Waterloo exhibit injuries more dreadful than these?"

Readers of Swain's "asphorisms" can compare and note the difference of style. Dr. Blundell's pupils must have been somewhat different from the young gentlemen of the present day.—*The Medical Age.*

HEBRA.—When you examine the hand of a patient and find on it the evidence of palmar psoriasis, be that hand the jeweled and perfumed hand of a queen or the dirty paw of a beggar, it is the hand of a syphilitic.

"PUCK" defines an ear-ring as a convention of otologists. Would it call a dentist a tooth-pick?

LUMBRICUS IN THE LIVER.—Dr. Oks, of Rasgrad, Bulgaria, describes in the *Vratsch* the case of an almost moribund phthisical patient, who was seized with vomiting and icterus. The liver was much enlarged. After death the usual appearances of advanced phthisis were discovered. All the biliary ducts were dilated, and the common duct was occupied by a large female lumbricus; one extremity of its body hung free into the duodenum. Deep in the substance of the liver a smaller male lumbricus was found, impacted in a biliary duct. This is a rare, but not entirely unknown, complication of a parasitic disease.

A CANDLESTICK IN THE UTERUS.—The following curious case is found related in *Le Courrier Médical* of August 25, 1883. A woman, aged forty-nine, subject since puberty to periodical attacks of mania, but with lucid intervals, was admitted to hospital on account of an abundant and fetid leucorrhœa. Examination of the uterus showed a cervix covered with granulations and irritated by a discharge coming from within the womb. A sound which was introduced struck against a metallic body. This was removed and found to be the brass socket of a candlestick.

"TAKING THE BULL BY THE HORNS."—An extraordinary incident, in which an athlete showed great presence of mind and unusual muscular strength, happened at Cranachan Farm, near Dundee, the other day, and is reported in the *Dundee Advertiser.* Mr. Archibald Macdonald, one of five brothers who occupy the farm, was going over his land accompanied by his shepherd, and, when they were passing through a field in which cattle were grazing, a bull gave them chase. The shepherd ran, and left his master to his fate. Mr. Macdonald could not run, he having suffered much from rheumatism, and being now obliged to use crutches. The bull approached, and began to attack him, he doing his best to keep him at bay with the aid of his crutches. As good luck would have it, Mr. John Macdonald, an elder brother, hearing cries, ran to the rescue. In his hurry he forgot to bring any instrument with him with which to fell the brute; but it occurred to him that if he caught the bull by the horns, he might keep him from doing more mischief till help arrived. Seizing the enraged animal by the horns, and using them as levers, with one supreme effort he gave a sudden twist to the head, dislocating the neck by his jerk, and, in a moment, the bull fell helpless at his feet. Mr. John Macdonald was, at one time, champion athlete of Scotland.

CYCLES OF FERTILITY.—The hen has in her ovaries, in round numbers, more than 600 egg germs, which develop gradually and are successfully laid. Of these 600 the hen will lay 20 in her first year, 135 in her second, and 114 in the third. In each one of the following four years the number of eggs will be diminished by 20, and in her ninth year she will lay at most 10 eggs. In order to obtain from them sufficient product to cover the expense of alimentation, they should not be allowed to live over four years.—*Annales de la Sociedad Odontogica Havana.*

TREATMENT OF CROUP.—M. Jules Simon, of the Hôspital des Enfants Malades, treats croup as follows: As soon as the malady is diagnosed he touches the throat with lemon-juice, or a solution of muriate of iron every two hours. Every three hours he washes the part affected with a solution of borax (two drachms to the ten ounces). At the same time the atmosphere of the room is charged with atomized phenic solution, a stimulant nourishment is given, and three to five drops of tincture of iron administered every three hours. When dyspnœa becomes apparent an emetic is to be given, but if the symptoms are not relieved tracheotomy must be performed without delay. The results of the operation are not, however, very satisfactory, as when the child is under two years a fatal termination is the rule, whereas about that age one out of five recovers. The after treatment consists in placing a piece of tarltan over the canula, warming the room, and administering beef tea and tincture of iron. The removing and cleaning of the canula should be done by an experienced person, and might be definitely removed after the eighth or tenth day. M. Simon considers that chlorate of potash is of little use in croup.—*Medical Press.*

REMOVAL OF THE GALL BLADDER.—At a recent meeting of the German Surgical Congress in Berlin, Dr. Langenbuch, of Berlin, showed a woman, aged 34, from whom he had removed the gall-bladder. The patient had suffered from gall-stones for nine months; the gall-bladder was felt as a hard, prominent, sensitive tumor. On opening the abdomen, the gall-bladder was found to be hypertrophied and adherent to the neighboring tissues, and to contain a large number of stones, some of them adherent to the walls, and threatening perforation. The viscus was emptied by a Pravaz's syringe, and then easily detached behind the cystic duct; and the patient now looked well and blooming, although she had had a floating kidney removed in 1881.—*Medical Press.*

THE SEAT OF UREA FORMATION.—Dr. Schroeder has recently performed some interesting experiments on this subject (*Kleb's Archiv*, t. xv.). He constructed an apparatus by means of which the blood of the animal experimented upon was caused to flow through certain organs—the liver, kidneys, &c. Notwithstanding a continuous circulation of two hours or more through the liver, the blood always contained the same amount of urea at the end of the experiment. The liver is, therefore, in Schroeder's opinion, the urea-forming organ *par excellence.—Gaz. Hebdom.*

THE GYNECOLOGISTS.—Lake Moosehicmagunticjocknahmakantajus, in Maine, is to become a summer resort. The brakeman will begin to announce the name on leaving the preceding station. The gynecologists are pale with envy over such a name.

IN urethral stricture " I have," says M. Diday, "in order to avoid confounding it with a spasm and to overcome this, if it exists, an infallible method. When the end of the sound is in contact with the coarctated portion of the canal I suddenly put the following question to the patient: 'How long is it since you have been with a woman?' If it is a simple spasm the sound immediately enters."—*Lyon Méd.*

A LARGE FAMILY.—The Madrid *Estafette* states that a Spanish gentleman, Senor Lucas Nequeiras Saez, who emigrated from his native land to America seventy years ago, recently returned to Spain in a steamer of his own, and brought with him the whole of his family, which consists of no fewer than 197 souls, sons-in-law and daughters-in-law not included. Senor Saez has been three times married. His first wife had 11 children at 7 births, his second had 19 children at 13 births, and his third had 7 children at 6 births. The youngest of this family of 37 is aged nineteen; the eldest, who is seventy, has 17 children, of whom the first-born is forty-seven. Of Senor Saez's 23 sons, all of whom are living, 13 are married, 6 are unmarried, and four are widowers; and of his surviving daughters, 9 are married. The granddaughters number 34, and of these 22 are married, 9 are unmarried, and 3 are widows; and of the 45 grandsons, 23 are married, 17 are unmarried, and 4 are widowers. There are also 45 great-granddaughters, and 39 great-grandsons, of whom 3 are married. Senor Saez has never tasted wine or any alcoholic liquor, and lives chiefly upon a vegetable diet, with but little salt. In spite of his ninety-three years, he is still hale and hearty, and makes a point of walking briskly for at least three hours every day.

THOMSEN'S DISEASE.—This singular affection, called by the name of the physician who first observed it in himself and his family, can at present, thanks to the investigations of Thomsen, Leyden, Seeligmüller, Westphal, etc., be considered as a distinct disease, whose nature, however, still remains to be found; for, until now, microscopical researches have given a negative result. According to Thomsen, it is of psychical nature; but Westphal considers it as a congenital disorder of the muscular tonicity, and Jacusiel as a congenital muscular hypertrophy. The disease is essentially hereditary, and follows other abnormal nervous manifestations. All the cases were congenital. The chief symptom is a spasmodic stiffness of certain muscles, appearing at the beginning of a movement. After the muscles of the legs have been at rest for some time, and the patient tries to get up, he feels suddenly a stiffness in the articulations of the legs, which are fixed by a tetantic contraction. This same stiffness shows itself also after violent muscular exercise, after certain complex movements, dancing, etc.; or after an unexpected sensation; when the patient is running, for example, if his foot comes into contact with a stone, it becomes rigidly fixed, and the patient stumbles, sometimes before he is able to save himself with his hands. M. Greffier, in the *France Médicale*, insists upon the important fact that the contraction only comes on at the beginning of a movement. When the movements have been repeated a certain number of times the contraction disappears. It may be observed, also, in muscles supplied by cranial nerves, as in those of the tongue, face and orbit. According to Thomsen, imagination and cold can produce the spasm, which disappears by a repetition of the movements. The sphincters are never implicated. The muscular hypertrophy may be absent; the muscular power, tendon-reflexes, sensibility of the skin, and electrical irritability of the muscles, are normal. It is, therefore, difficult to mistake this disease for locomotor ataxy or pseudo-hypertrophic paralysis; the latter is a true paralysis, and the former is characterised by permanent stiffness, abnormal excitability, excess of the patellar tendon-reflex, and, finally, by symptoms of spinal epilepsy.

DANGER FROM FLIES.—Dr. Grassi is said to have made an important, and by no means pleasant, discovery in regard to flies. It was always recognized that these insects might carry the germs of infection on their wings or feet, but it was not known that they are capable of taking in at the mouth such objects as the ova of various worms, and of discharging them again unchanged in their fæces. This point has now been established, and several striking experiments illustrate it. Dr. Grassi exposed in his laboratory a plate containing a great number of the eggs of a human parasite, the *tricocephalus dispar*. Some sheets of white paper were placed in the kitchen, which stands about ten metres from the laboratory. After some hours, the usual little spots produced by the fæces of flies were found on the paper. These spots, when examined by the microscope, were found to contain some of the eggs of the tricocephalus. Some of the flies themselves were then caught, and their intestines presented large numbers of the ova. Similar experiments with the ova of the *oxyuris vermicularis* and of the *tænia solium* afforded corresponding results. Shortly after the flies had some mouldy cream, the *oidium lactis* was found in their fæces. Dr. Grassi mentions an innocuous and yet conclusive experiment that every one can try. Sprinkle a little lycopodium on sweetened water, and afterwards examine the fæces and the intestines of the flies: numerous spores will be found. As flies are by no means particular in choosing either a place to feed or a place to defæcate, often selecting meat or food for the purpose, a somewhat alarming vision of possible consequences is raised. Dr. Grassi invites the attention of naturalists to the subject, and hopes that some effectual means of destroying flies may be discovered.—*Brit. Med. Journal.*

THE TUNING FORK IN THE TREATMENT OF NEURALGIA.—Dr. Rasori uses the tuning-fork in the treatment of neuralgic pains, applying it while vibrating over the course of the painful nerve. The sitting lasts about half an hour, when the patient is usually relieved without further treatment. He relates the case of a woman who had suffered from vomiting during the neuralgic attacks, but after the relief obtained by the application of the tuning-fork she was troubled no more in this way (*Cincinnati Lancet and Clinic*). The principle of this treatment is the same as that employed by Dr. Mortimer Granville. He uses an instrument, recently described in these columns, called the percuteur, by means of which he is able to make a number of taps in regular and rapid succession, and of varying intensity to any part of the surface of the body.

FAT IN THE STOOLS IN PANCREATIC DISEASE.—In the *Deutsche Medizinische Wochenschrift* (September 12th), Dr. Ziehl records a case of cancer of the pancreas occurring in Professor Erb's clinic at Heidelberg, and discusses the question of fatty stools in pancreatic disease. The case itself presented no unusual features, but the predominance of gastric symptoms suggested the stomach as the seat of the disease, which was marked by the appearance of a painful tumor in the left side of the epigastrium, and by jaundice. The motions were of a peculiar silvery grey color, and found microscropically to consist in great part of masses of acicular crystals soluble in ether; chemical analysis showing the stools to be composed of fat to the extent of half the solids. On dissection there was found a large scirrhous cancer of the pancreas, which had invaded the walls of the stomach and duodenum, and occluded the common bile-duct. The pancreatic duct was dilated and distended except at its termination, which was lost in the cancerous mass. The writer, after saying that the case illustrates the well-known fact of pancreatic disease being marked by the occurrence of fat in the stools, shows that the form in which the fat occurred in this case was exceptional, almost requiring the microscope for its detection, whereas it usually occurs in amorphous masses recognizable at once, and not in crystalline form. He further shows, by reference to cases recorded by Friedrich, Nothnagel, and Gerhardt, that when fatty crystals in excess are present there is not only pancreatic disease, but also occlusion of the bile-duct, the last-named author finding crystals resembling tyrosin and leucin in a case of catarrhal icterus. Some doubt may be expressed whether the crystals in question were tyrosin rather than fatty crystals; but Gerhardt's suggestion, that in such a case there was also temporary plugging of the pancreatic duct is probably true. Indeed, if the accepted view of catarrhal jaundice be a fact, there must surely be as much hindrance to the escape of the pancreatic juice as of the bile. If it were more frequently the custom to submit the alvine evacuations to as minute a scrutiny as is brought to bear on the urinary excretion, the occurrence of fatty matter in excess in the stools would doubtless be found in many more cases than those of primary disease of the pancreas.

Sugar as a Dressing for Wounds.—Dr. F. Fisher, writing in the *Centralblatt fur Chirurgie*, says that in the Strasburg Hospital, where he is assistant in the surgical department, Professor Lücke has since May used powdered cane-sugar as an antiseptic dressing to wounds. Hitherto, it has been used in combination with naphthalin (equal parts) or with iodoform (1 part to 5 of sugar). In cases of wounds united by suture, the mixture is put up in gauze and applied to the part; where there is loss of skin, the sugar is sprinkled direct over the part. The sugar-dressing is fixed in place by some layers of gauze deprived of fat, over which a layer of gutta-percha is applied, and the whole is secured by a bandage. The sugar-dressing may remain from eight to fourteen days without the sugar dissolving; the secretion from the wound is equally distributed through the sugar, and it is only when the layer of sugar is too thick (more than about one-fifth of an inch) that lumps are formed. The wounds have a healthy appearance under the sugar, the dressings are not offensive, and bacteria cannot be found in them. Healthy granulations, with no tendency to bleed, are developed; and cicatrisation proceeds rapidly. In wounds united by suture, healing by the first intention has always been observed. Dr. Fisher is not able to say whether the sugar is decomposed, or what new products are formed.

Artificial Nourishment.—Some of our foreign exchanges relate a novel method for administering nourishment to invalids and persons with weak digestion, which, it is alleged, has been practised in Paris with great success. Diseases and enfeebled health commonly owe their origin to the imperfect assimilation of food. When the digestive functions are impaired, the body is insufficiently nourished, and is unable to resist the encroachments of disease. For the maintenance of health and for restoration in sickness it is of the first importance that the food be not only of the most nourishing kind, but that it be administered in a form of easy digestion and assimilation. In a paper recently communicated to the Medical Hospital Association of Paris by Dr. Debove, he describes a form of alimentation which has attracted much attention. His system is to apply nourishment in form of powder instead of in bulk. Uncooked meat, from which the fat has been removed, is minced finely and allowed to dry in an oven at about 90° Centigrade, until it becomes perfectly hard without being burnt. It is then reduced to impalpable powder by pounding in a mortar and passing through a fine sieve. The powder so obtained represents about four times its weight in flesh. The fibre and the large percentage of water contained in flesh are thus removed, and the essential properties of the meat retained and presented in a form the least difficult to digest. Other alimentary substances, such as lentils, beans, peas, etc., can be prepared in the same way.

In cases of consumption the treatment is said to have proved marvelously successful, and in general debility and nervous disorders, arising from weakness, restoration is rapid and permanent. A few spoonfuls of the powder are equal to the meal of a person with a healthy appetite. The powder, when bottled, will keep an indefinite time, and may be taken with a little milk, gravy, wine, water, or other liquid.

THE GREATEST OBELISK.—The Washington correspondent of the Cleveland *Leader* writes: The Washington monument is the wonder of Washington, and its beauty the admiration of both Americans and foreigners. Already over 350 feet high, it rises from the banks of the Potomac a great white marble shaft, piercing the clouds, and backed against the blue of the sky. It is already the grandest obelisk the world has ever seen, and in the future, should the nations of the day pass away, leaving no more records of their progress than the mighty ones of the Egyptian past, it will surpass the Pyramids in the wonder of its construction. It is already higher than the Third Pyramid, and within a hundred feet of the size of the second. It is taller than St. Peter's Cathedral, and when finished it will be the highest structure in the world. To-day the Cathedral of Cologne, 512 feet high, is the tallest work in the world. Next comes the Great Pyramid, 483 feet high; then the Strasburg Cathedral, 473 feet; then the Second Pyramid, 453; then St. Peter's, 430; St. Stephen's at Vienna, 443; and St. Paul's at London, 384.

GALIUM APARINE FOR THE RELIEF OF CANCER.—An instructive paper which appeared in the *Journal* of June 16th, by Dr. Quinlan, on the employment of this plant in the treatment of chronic ulcers, reminds me of some other uses to which it is put in parts of England) especially Kent and Hertfordshire. The fact of its having emanated, as in Dr. Quinlan's case, from the lay public, and of its having proved serviceable in cases of mammary cancer under my own observation, induces me to bring it under the notice of the profession.

The following are the directions given for its employment, by a gentleman in Hertfordshire, to a poor woman suffering from cancer. The bowels having been previously cleared by aperient medicine, and the patient enjoined to live upon the most simple diet, five ounces of the juice of the plant, obtained by pounding and squeezing, are to be taken twice daily; at the same time, an ointment of the juice is to be applied to the cancerous ulcer, laying bruised clivers over it, and keeping them constantly applied and renewed. The amendment is very gradual, so that steady perseverance in the use of both internal and external means is necessary. According to one account, in three months the wound had healed perfectly.

Cliver, or galium aparine, has also the reputation of reducing the size and diminishing the pain of cancer; the latter I have noticed in a marked degree in a case in which I recently employed it locally; my patient, indeed, rebuked me for not telling her of it sooner. It certainly seems to have power in arresting the ulcerative action, and in promoting a more healthy one. According to the *Medical Digest*, galium aparine was recommended by Dr. Winn in the *Medical Times and Gazette*, vol. i, p. 144, 1854; and vol. ii, p. 117, 1864, in the treatment of cancer.—CHARLES BOYCE, M.B., Maidstone.—*Brit. Med. Jour. Eng.*

GLASS COFFINS.—A proposition has been submitted to the Prefect of the Seine, in which the author recommends the substitution of glass coffins for the wooden ones now in general use. The following advantages are claimed for this mode of sepulture. The glass coffin, which should be hermetically closed by proper cement, being unalterable and impermeable to air or water, would completely isolate the body which it contains from the action of damp, whatever be the nature of the soil in which the coffin is placed. By this means the body becomes mummified, and the coffin will be found intact at the end of five, ten, or twenty years. The mummification will take place slowly in the interior of the coffin, on the condition that the gases which escape from the body during decomposition be absorbed as they are produced, which the inventor says is easily effected, but he does not say how. These two conditions being scrupulously fulfilled, the author adds, the advantages he anticipates are, from a sanitary point of view, incalculable, particularly in a large and crowded city.

CASE OF SEPARATION OF THE SYMPHYSIS PUBIS.—This occurred in a sixteen-year-old girl, who was thrown from her horse whilst riding astride on a man's saddle, and dragged some distance. When seen, a little over six weeks after the accident, she was found to be suffering from bed-sores on the back and buttocks, with a sinus in the left groin passing close to the labium. There was a copious, thick and very fetid discharge from the vagina—gritty when rubbed between the fingers. There existed a separation of the pubic symphysis of 1½ inches. On introducing the finger into the vagina the roughened edges of the pubic articulation, denuded of cartilage, could be easily made out. The finger in the vagina could be plainly felt by the finger of the other hand, placed on the mons veneris, nothing but skin intervening between the two. The orifice of the urethra was dilated and in an altered position. Six months after the accident the finger, introduced into the vagina, encountered firm bands of tendinous substance, and uniting the pelvic articulation, part of the edges of the pubic articulation could still be felt, but smooth and covered by membrane. When first allowed to walk the girl felt "loose," and a feeling as though she was falling asunder. This only exists in a very slight degree later, and is quite counteracted by a firm band round the hips. Incontinence of urine from the first, and cessation of the menses.—J. S. HAYES, M.D., *Australasian Medical Gazette*, April 15, 1883.

CASE OF CALCULUS IN THE NOSTRIL.—I was requested to see a lady, about twenty-three years of age, who was annoyed by excessive fœtor of the breath, and who fancied there was something in the left nostril. She looked thin and sallow; there was no discharge from the nose; nothing could be seen in it, and at first the probe detected nothing. But on directing the instrument well down to the floor of the nostril, a hard movable substance was touched. Owing to its size, its extraction was difficult, but it was got out with no other damage than some abrasion of the mucous membrane. The fœtor of the breath passed off in a few days, and the patient had no further trouble. The substance proved to be a calculus; its length was almost one inch, its breadth eight-tenths of an inch, its thickness six-tenths. It required many washings to free it from bad smell. When thoroughly dry, it weighed forty-six grains. Touched with dilute acid, a few minute bubbles of gas were disengaged. It was of a light drab color, and could be broken by moderate force. In the centre was a fragment which appeared to be of bony structure. Cases of nasal calculi are mentioned in Ranking's *Abstract*, vol. ii, 106; vol. vi, 132; and vol. xxxi, 158.—W. E. C. NOURSE, F.R.C.S.

HUMAN OBESITY.—Last month the death was recorded of the "fattest woman in the world," a member and special curiosity of a travelling circus company in the United States, who appears to have been smothered in her bed by rolling upon her face, she being unable to turn upon her back without assistance. Miss Conley, the adipose prodigy in question, though probably the most enormous of her sex, weighing, as she is stated to have done, 497 pound, fell far short of the bulk of the famous Daniel Lambert, who died in 1809, at Stamford, at the age of 40. Lambert weighed no less than 52 stones 11 pounds, that is 739 pounds, or close upon half as much again as the American lady. He was 5 feet 11 inches in height, measured 9 feet 4 inches round his body, and 3 feet 1 inch round the leg. It is said that he never drank any alcoholic beverage, and that he usually slept less than eight hours a day.—*Ex.*

L'Union Médicale contains an interesting account of an extraordinary case, in which a fœtus at full term had sojourned fifty-six years in the neighborhood of the mother's womb without having undergone any change whatever, and without having caused any distress to the mother, beyond that resulting from its size and weight. The mother died at the age of eighty-four, and the perfect infant was discovered in a cyst, whose wall was petrified, about the right Fallopian tube.

SENATOR ON FLOATING KIDNEY.—Professor Senator's conclusions, recently published in the *Charité Annalen*, based upon the records of thirty-two cases, agree in almost every particular with those to be found in Landau's *Wanderniere der Frauen.* Senator terms the affection "ectopia renis." He found 1 in every 139 sick women to be subject to floating kidney, independently of age or social station. Disappearance of the fat around the capsule of the kidney can hardly be a cause of this condition, for there is little or no such fat in children, amongst whom floating kidney is very rare, and men are as liable to emaciation as women, yet floating kidney is much less frequent amongst men than in women. The absence of fat, as Senator most pertinently observes, does not cause floating kidney, but facilitates diagnosis. The causes are more probably to be found in the condition of the generative organs and defects of attire. Repeated pregnancy causing pendulous abdomen is a very probable cause; and uterine displacements are considered by Landau to influence the position of the kidney; the same authority attributes displacement of the kidney to tumors and hydronephrosis, but Senator has never observed these pathological conditions in any of his cases. Tight-lacing is considered as a highly probable cause of floating kidney, as Mr. Clement Lucas observes in his paper on surgical diseases of the kidney, and would account for the greater frequency of displacement of the right kidney, which, in a tight-lacing woman, is subject to prolonged pressure by a large solid body, the liver. The greater length of the right renal artery favors displacement of the right kidney. To make diagnosis as certain as possible, the patient should first be placed on her back, the abdominal walls must then be thoroughly relaxed by passive elevation of the lower extremities. In examining the right lumbar region, the surgeon or physician should stand on the same side, and place the left hand on the loin posteriorly and the right on the abdomen; in examining the opposite side, these tactics must be reversed. Professor Senator appears to prefer this method to Landau's, for if the medical attendant stand on the opposite side of the patient, with the position of the hands reversed, Senator believes that the displaced organ is more likely to be pushed aside and thus elude detection.

Ovariotomy in Italy.—Dr. Peruzzi has made an important addition to the history of ovariotomy in Italy. The fourth series of 100 cases of ovariotomy has been completed in the eleven months from June, 1882, to May, 1883. The following table is very interesting, showing how the operation has progressed in Italy, and how the mortality has steadily diminished. The first 100 occupied 18 years, from 1859 to 1877, the second only two years and a half, the third nearly two years, and the fourth only eleven months. The recoveries and deaths are as follows:

First	100,	cured	37,	died	63
Second	"	"	64,	"	36
Third	"	"	74,	"	26
Fourth	"	"	79,	"	21

In the fourth series, in addition to the 100 cases of complete ovariotomy, there were seven incomplete operations, with 4 recoveries and 3 deaths; 19 cases of supravaginal laparo-hysterotomy, with 9 recoveries and 10 deaths; and 6 cases of exploratory incision, with 5 recoveries and one death; oöphorectomy, or Battey's operation, was performed 4 times, with a result of 1 death and 3 recoveries.

Management of Labor in Copenhagen.—Prior to 1877 a purely expectant plan was pursued in the management of labor at the Maternity Hospital in Copenhagen. If delivery was not accomplished within three hours, then resort was had to extractive measures. Since September 1, 1877, the method of expression has been employed in every case. In comparing the results obtained in two periods of four years each, by the old and new methods (1,780 of the former, and 1,559 of the latter), Dr. Weiss states that: 1, the frequency of hemorrhage occurring during the period of delivery has been markedly reduced; 2, retained placenta has been met with much less frequently since the method of expression has come into use; 3, rupture of the membranes has occurred more often; 4, post-partum hemorrhage is now of very rare occurrence. In view of these facts, the author thinks that midwives should always be instructed to manage labor in this way.—*Le Courrier Médical.*

EDITORIALS.

The New Medical College at Quincy.—A correspondent of the *Peoria Medical Monthly*, announcing the organization of a new medical college at Quincy, Ill., states that the Decatur physicians are not going to be behindhand, and will presently organize a rival institution. The writer says that the following will go into the prospectus: "For some time we have been convinced that the obstacles thrown around the pathway to the medical profession by designing men are altogether too numerous, and it shall be our endeavor to do what we can to fill the decimated ranks of the profession, and in this way help to hold up the hands, enlarge the sphere of usefulness, &c., of those who have already chosen this noble profession. We believe it cannot be successfully controverted that where members of our profession are most numerous, there the health of the community is in the best state of preservation. This being an undisputed fact, we shall labor for the good of mankind by so decreasing mortality, in filling the ranks of our profession, until we may see in every city and hamlet throughout this glorious republic of ours, one physician to every one hundred inhabitants!"

THE INFLUENCE OF THE DOCTOR IN HEALTH RESORTS.—"Each winter resort," says John Richard Green, in *Stray Studies*, "brings home the power of the British doctor. It is he who rears pleasant towns at the foot of the Pyrenees, and lines the sunny coasts of the Riviera with villas that gleam white among the olive-groves. It is his finger that stirs the camels of Algeria, the donkeys of Palestine, the Nile boats of Egypt. At the first frosts of November, the doctor marshals his wild geese for their winter flitting, and the long train streams off, grumbling, but obedient, to the little Britains of the South."

HYGIENE TAUGHT IN MEDICAL COLLEGES.—There is a great deal of nonsense published by the secular press, and even by medical journals, on this subject, and very many foolish papers are presented to medical societies, including the American Medical Association, which for the credit of their authors, and for these Bodies, had much better have been suppressed.

One would suppose, when listening to or reading such papers, that hygiene was not taught in medical colleges, and had not been so taught since the foundation of each of them.

Those who are familiar with the course on chemistry in medical colleges know full well that the subjects of hygiene are all carefully brought before a class; the composition of the atmosphere, its bulk, density, weight, diffusion, depth, the properties of each of its component parts, and the effects of each of them on the animal and vegetable world, the laws of the diffusion of gases, the laws governing their motion (ventilation) and distribution. These elementary facts are taught to every class.

All that belongs to the art of efficient plumbing in its relations to sewerage is included in this teaching, and scientifically included.

In the chemical course also there is taught the elements of sunlight, and the effects of each of these forces: the laws of disinfection, and the facts appertaining to disinfectants and deodorants.

As to proper drainage, surely every intelligent man must understand what is required, without a college training. The average farmer, literate or illiterate, brings into daily practice all of its requirements.

Cleanliness of person, bed and body clothing, premises and drains, are so fully understood that he must be fatuous indeed who wishes to be regularly taught in regard to these subjects. But if this be required, who does not know that these subjects are repeatedly taught by every-one who has charge of the chair of the Practice of Medicine? What lecturer on this branch does not constantly enforce upon the attention of his class the absolute importance of domestic, bed and body cleanliness, of thorough ventilation, of disinfection, of the necessity of sunlight, and the influence of such light in preventing and removing disease?

The dangerous effects of the products of combustion and respiration are taught both in the chemical and physiological courses, in the very many valuable facts not strictly belonging to hygiene.

If, then, medical colleges teach thoroughly the subjects of ventilation, disinfection, cleanliness, drainage, the necessity of sunlight, the evil of breathing air poisoned by the products of combustion and respiration, the laws governing the diffusion of gases, and the danger of these gases when liberated in a dwelling ; if such colleges teach also, as they do, the forces governing the causation of diseases, the dissemination of diseases, and the hygienic methods of controlling them, what shall be said of the constant tirade in newspapers, medical journals, and medical societies against medical colleges, because these last do not have a separate and distinct course on hygiene ? These tirades cannot be called hypercriticism, or even unjust criticism, for they cannot be dignified with the name of criticism. Such writings and speeches have no name, and it is very appropriate to give them one ; it should be a family name, and one proper for all of its representatives ; the name for them all is—TWADDLE.

CREMATION.—In a very partisan appeal and unfair exposition of this subject, in the *Princeton Review*, for September 1883, the author, the Rev. J. D. Bengless, of Brooklyn, N. Y., and President of the New York Cremation Society, pronounces the object of his society "a noble philanthropy, and *a good investment*," and invites co-operation and support. This is an original and rather comic combination of arguments in favor of cremation : "It is a noble philanthropy and a good investment !"

One of the best "points" made by the author of this paper is that wherein he replies to the arguments of the Bishop of Lincoln against cremation. His Grace, the Bishop, says that "it is impossible for God to raise up the bodies of those who have been burned." If this be the case, says the President of the New York Cremation Society, the Rev. J. D. Bengless, "what is to become of the blessed martyrs who suffered for their faith by being burned at the stake ?" He evidently thinks that if God takes care of those who were thus burned, the ashes of all who "take stock" in his society will be cared for and protected !

THE KENTUCKY SCHOOL OF MEDICINE, LOUISVILLE, KY.—This school has just issued the catalogue for its twenty-eighth annual session, to commence January 7, 1884. There is included a valuable list of all of the graduates of this school from 1851 to 1883, inclusive. It is a pleasure to note the large classes every year in attendance, the long list of graduates, and the deserved prosperity of the institution.

LOUISVILLE SCHOOL OF PHARMACY FOR WOMEN.—This very excellent institution is in full operation. It has a very excellent Faculty and a Board of Regents of well-known and prominent citizens.

There are two courses every year : one of twenty weeks in winter, commencing on the first Monday in October, and one of sixteen weeks in spring, commencing on the second Monday in March. The courses are thorough and excellent. Professors' fees, autumn term, $45 ; spring term, $25 ; graduation fee, $10.

To graduate, applicants must have taken both terms for two years. The applicant must be twenty-one years of age. This requirement is useless for males, and worse than useless for females. Some males (a few) come to years of discretion before that age ; but it is well known that all women do so long before that period. They should be allowed to graduate as soon as the other requirements are observed. Besides, there are some women who will never admit that they are quite so old, and such a requirement is really a barrier and an obstacle—*males are not wanted, but if they beg to be admitted into such a circle* they are favored. There are two such beggars in the present class.

This institution deserves the strongest support and must have it.

GAILLARD'S MEDICAL JOURNAL.—Some of the exchanges, in noticing the recent enlargement of this journal, insist upon making so many positive statements as to its past issues, that even its editor, in reading these statements, can scarcely resist the conviction that the editors of the exchanges know more of the matter than he does. Some say it has been a "bi-weekly;" others, that it was a "semi-monthly;" some, that for eighteen months it was a "weekly," &c. The facts are, that this Journal was never once issued as a bi-weekly, nor as a semi-monthly. It was issued for seventeen years consecutively as a monthly, and was so issued up to January, 1883. It was then issued for six months (to July, 1883,) as a weekly, and in July, 1883, was restored to the monthly form, in which it appeared for seventeen years. Such are the facts, as stated by one who has supervised almost every issue of the work since January, 1866. As to the enlargements that have been made in the past three years, the friends of the work will, it is believed, read these facts with pleasure. When the journal was brought to New York (October, 1879,) it contained (by printer's measure) in each number 25,560 words. It now contains in each number, by same measure, 79,200 words. *More than three times the quantity of reading matter, but given to the readers at the same price.*

THE MEDICAL WORLD—THE IOWA STATE MEDICAL REPORTER.—The two last additions to the list of American journals are known by the above names. The price of each is $2. One is published at Philadelphia, the other at Des Moines. In the words of Rip Van Winkle, to each it is said: "May you live long and be happy."

DR. GEORGE M. BEARD gives, according to his friend and biographer, Dr. A. D. Rockwell, the following amusing and original testimony in regard to debt and to creditors:

"I congratulate myself that few persons at my time of life have succeeded, amid severe discouragements, in honestly acquiring so admirable a band of creditors; in that select circle are found names of whom, if the world is worthy, certainly I am not. It is truly worth all the deprivations and obstacles and misunderstandings I have encountered in my pathway through this vale of sorrows, to have been brought into such an intimate relation, for, next to marriage, debt is the closest of all connections, and tends to make the parties concerned thoroughly acquainted.

"It has been said by those who regard themselves as wise, that you must winter and summer with one before you can know him, but I will recommend a shorter and surer road to acquaintanceship—the getting in debt to a man or allowing him to get in debt to you. Such delicate relationships bring out, as I have noticed, the finer and subtler and least suspected qualities of human nature, that would never reveal themselves to any other test whatever; indeed, no man can be said to know himself until he has been either a debtor or creditor.

"Not the least of the charms of the relationship of debtor and creditor, if one may judge from his own experience, is its permanency; in this feature it is certainly superior to wedlock, or to any other earthly relation. Marriages are followed too often by separations, divorces, or at least by infidelities; but my creditors, or their representatives, are never long away, they never sue for a divorce, and are faithful unto death."

Color-Blindness.—Unless Dr. Jefferies, of Boston, who recently lectured in this city on color-blindness, was incorrectly reported, he made a grave mistake in asserting that to people who are color-blind red and green appear as gray. In the most usual form of color-blindness red and green appear identical, so that the color-blind person can see no distinction between them; but in nearly all cases red and green appear as different as possible from gray. It is well established that color-blind people do not see either red or green as people with normal eyesight see either of these colors; but the color which they see in place of red and green is a vivid one, bearing no resemblance whatever to gray, which is one of the few colors which nearly all color-blind persons see correctly.

Precisely how colors appear to the color-blind it is, of course, impossible for any one to know—as impossible as it is for a person born deaf to understand what the blast of a trumpet resembles. In extreme cases of color-blindness it is generally supposed that the color-blind person sees only light and shade. This is not true, for it sometimes happens that the shaded lines of an engraving will present to the color-blind eye an appearance like that of a blue skein of worsted, or in some cases a red skein. That is to say, that while the color-blind person will see little but degrees of light and shade in colored objects, he will see what to him are colors in the lines of an engraving.

The whole subject is as yet very imperfectly understood, even by the best physicians. The one thing that is well established is that a color-blind person cannot distinguish between red and green. Most of the men who are now properly kept out of the navy and the merchant service, because they cannot tell a red light from a green one, could at once distinguish a blue light from a white one, and in view of this fact, it would be wise to substitute white and blue for red and green in signal flags and signal lights.

The Disease of the Money Counters.—A Washington correspondent visiting the Treasury Department, noticed that many of the women employed in counting bank-notes looked ill and had sores upon their hands or heads. The superintendent gave the following account of the trouble: "Very few," he said, "who spend any considerable time in counting money escape the sores. They generally appear first on their hands, but frequently they break out on the head, and sometimes the eyes are affected. We can do nothing to prevent this. All of the ladies take the greatest care of themselves in their work, but sooner or later they are afflicted with sores. The direct cause of the sores is the arsenic employed in the manufacture of the money. If the skin is the least abraded, and the arsenic gets under the flesh, a sore will appear the next morning. The habit that every one has of putting the hand to the head and face is the way the arsenic-poisoning is carried to those portions of the body. See here," said Mr. Roger's, stopping by the side of a young lady, and picking up a glass vessel containing a sponge, "this sponge is wet, and is used to moisten the fingers while counting the money. You see how black it is. That's arsenic! Every morning a new piece of sponge is placed on the desk of each employé, but before the day is over it is as black as this. I have known half-a-dozen cases where ladies have been compelled to resign their positions. There are three ladies who were here six years before they were afflicted with sores. About three months ago they were so visited by them that they had to quit work. They have been away ever since, and the physician's certificate in each case says that their blood is poisoned with arsenic."—Note.—[So far no cases of this kind among physicians have been reported.—E. S. G.]

New Views on Bright's Disease.—At a recent meeting of the Académie de Médécine of Paris, Professor Semmola, of Naples, communicated to the society the result of his latest experiments on Bright's disease, under which term he understands chronic parenchymatous nephritis only. The primary cause of albuminuria in that disease is, according to some, a lesion of the kidneys themselves, while others explain it either by a pathological condition of the albumen in the blood, or by a combination of these two causes. Semmola's experiments go far to show that the lesion in the kidneys is a secondary process. "He injected daily under the skin of dogs ten to seventy grammes of white of egg; after four to five days there were signs of a congestion of the kidneys, which led to hemorrhage when the dose of albumen was large. After seven to ten days, leucocytes were found in the urine, and the renal epithelium began to show signs of fatty degeneration. This, after a fortnight, was well-marked; and about the twenty-fourth day there was evidence also of an interstitial lesion of the kidneys. The introduction of albumen into the blood produces a peculiar dyscrasia, and the quantity of albumen eliminated by the urine is larger than that which has been injected; in the animals experimented upon the bile contained albumen, which is also the case in patients suffering from Bright's disease. As for the cause of the peculiar dyscrasia alluded to, Semmola thinks that it is an alteration of the nutritive functions of the skin. He tried also the subcutaneous injection of blood-serum, yelk of egg, and milk; the first caused a slight albuminuria, but the last two had no effect."

"How the Poor in London Live."—Under this heading the *Echo*, of September 28, 1883, published the statement that, out of 2,290 persons, living in consecutive houses at Bow Common, only 88 adults and 47 children attend any place of worship; while in one street, near Leicester square, containing 246 families, only twelve are said to be represented in church or chapel. The condition of some of their homes is said to be "pestilential." To get into them you have to visit courts which the sun never penetrates, which are never visited by a breath of fresh air, and which never know the virtues of a drop of cleansing water. "In one cellar was found a father, mother, three children, and four pigs. In another room was a man ill with small-pox, his wife just recovering from her eighth confinement, and the children running about half naked and covered with dirt. In an underground kitchen seven persons were found living, and a little child lying dead in the same room; while another apartment contained father, mother, and six children, two of them being ill with scarlet fever. Immorality is but the natural outcome of conditions like the above. The poverty of many, who strive to live honestly, is described as appalling. In St. George's-in-the-East large numbers of women and children, some of the latter being only seven years of age, were employed in sack-making, for which they got a farthing each, while in one house a widow and her half-idiot daughter were found making palliasses at 1¾d. each. Another woman, who has a sick husband and child, was found employed at shirt-finishing at 3d. a dozen, and by the utmost effort can only make 6d. a day, out of which she has to find her own thread!"

SMALL-POX.—A scheme for the prevention of the spread of small-pox has been adopted by the employés at Messrs. Tangye's works at Birmingham, which is worthy of imitation. A tax varying in proportion to the wages received, from a halfpenny to twopence per week, is levied on all employés, and this constitutes a fund in the hands of a representative committee. When a medical certificate is produced to the effect that any workman is attacked by, or comes from a house infected with, small-pox, his wages are sent to him in a registered letter, and he is required to isolate himself until pronounced free from all danger of conveying the infection. The inducement to conceal the fact of the disease owing to fear of the loss of the regular income is thus done away with.

THE TELEGRAPH IN MEDICAL JOURNALISM.—Some of the American medical journals refer with much pride and approval to the "journalistic enterprise" of the *Medical Record* of New York, in providing its readers with telegraphic summaries by cable of the daily proceedings of the British Medical Association during its Liverpool session, and obtaining advance copies of the addresses; an example of intelligent activity which is declared to be without precedent in medical journalism. The *Record* took just credit to itself at the time, and suggested that this use of the cable was a new departure in medical journalism. The free use of the cable for obtaining medical information of public importance is, however, by no means new; the cable reports of the progress of cholera in Egypt were obtained for the *British Medical Journal* from eminent medical authorities in Cairo and Alexandria, and were by far more extended and elaborate than the reports in question.

CANCER INFECTION.—Dr. T. Gaillard Thomas says, in answer to a question by one of his clinical class: There is undoubtedly some danger of propagating cancer by sexual intercourse, and several instances of cancer of the penis being contracted in this way are on record. The slightest abrasion of the penis may be sufficient for the absorption of virus from the malignant growth, and the husbands of women suffering from cancer of the uterus should, therefore, always be warned against intercourse with their wives. This, as you see, is a matter of very considerable importance, and I am glad that the point has been suggested. I have had one such case.

MEDICAL EDUCATION.—The introductory address to the students of the Medical Department of the University of the City of New York was delivered before a large audience in the college building on East Twenty-sixth street, recently, by Prof. Herman Knapp, M.D. It was entitled, "The Methods of Medical Education." The speaker divided the methods into two classes—the European and the American. The former requires a liberal preliminary education, four years of professional study, and final examination and license from a government board. The latter has very modest requirements of a preliminary education—three years' tutelage under a practitioner, during which two regular courses each, no less than 20 weeks, must be taken at a recognized medical school. The tuition is of the one-class lecture system, with no graded instruction, the second course being a repetition of the first, and at the close there must be a written examination upon seven topics. The European method must, he said, by everyone be declared to aim at a higher standard, yet the American suited the requirements of the great majority of the medical students of this country. The speaker showed that the different systems of medical education were the result of physical constitutions of the respective countries, and that medical progress had advanced with the political freedom in a nation. First England, then France, and now Germany led the onward march of medical science. America will certainly come to the front soon, for as surely as the European civilization was above the Asiatic despotism, so certainly would American culture outrank the European in every respect. The European system of medical education had its disadvantages as well as the American. It was stereotyped, strangling many a mind of an original or initiative turn. Too much time was wasted on preliminaries that were only in distant connection with medicine. The long attendance of theoretical lectures was apt to dull and weary the student's mind before he learned what bearing these lectures had on the practice of his profession. The American method was prevalently practical. Chancellor John Hall, D.D., opened and closed the exercises with prayers, and Dean C. I. Pardee, M.D., announced the beginning of the winter lectures. The new class numbers over 400 students.

CONTRACT PRACTICE AND ETHICS.—"In the department for correspondence in this number of the *Journal* will be found a letter from Dr. J. W. Russey, of Georgia, making a plea in favor of contracts for ordinary practice under certain circumstances mentioned in the letter. Dr. Russey writes in a spirit of liberality and candor, worthy of general imitation; and, as his plea is probably the best that could be made in favor of any kind of contracts for the performance of ordinary medical and surgical practice, he will not think us unkind if we analize (*sic*) and examine briefly the basis of that plea for the general good. The essential features of the case are as follows:

"1. A corporation employing a large number of workmen levy a per capita tax, or, in other words, retain a certain percentage of each man's wages for the purpose of paying a physician a stipulated salary per month or year, in return for which he is to promptly attend 'all or any employés who may be injured or fall sick while engaged by the company.' Such is the contract. 2. The facts which are alledged (*sic*) to justify it are, the large percentage of the laborers who are opposed to paying anything for medical or surgical attendance, though very far removed from the pauper class, and yet they are the ones that have the most sickness. Consequently, without a contract with the company, the physician who should attend them would get very little pay for his services. Furthermore, it secures to the afflicted prompt and early attendance, which is a great advantage to all the parties concerned.

"From a disinterested standpoint several questions arise. 1. Is there any justice and propriety in taking a portion of the wages of intelligent, prudent and upright laborers, who, in the nature of things, and, as stated in the letter, furnish only a small part of the sickness, and use it for the benefit of the ignorant, heedless and vicious who are working side by side with them? 2d. Is it right or just by imposing a tax on the first-named class of laborers to pay some one physician selected by a corporation or company, to constrain them to the employment of such physician whether they have confidence in his skill and fidelity or not; or, if they choose another, to suffer the additional injustice of contributing to the salary of one physician and paying another full fees for services to themselves and their families? Instances of this kind have come under our observation many times. 3. Is it just to his neighboring physicians engaged in practice to make a contract with a corporation or company for a specified salary to do an undefinable amount of ordinary medical and surgical service for a large class of citizens, whether laborers or not, without fees from the parties receiving the service, but for which they are taxed in such a way as to make it decidedly for their pecuniary interest to employ him only? Is it quite fair to accept a relation professionally, by which, if your brother practitioner happens to be called to one of the laborers covered by your contract, he will be almost certain to be dismissed very soon on the allegation of his neighbors, that it would be very foolish for him to continue to employ and pay Dr. A when he was *entitled* to the services of the contract doctor B without charges? Finally, 4. If it is desirable, on account of the improvidence of some of those they employ, for companies or corporations employing a large number of laborers to make some provision for securing prompt and adequate medical and surgical attendance upon such as may be sick or injured; and, if it is proper to retain and appropriate a percentage of their wages for that purpose, would it not be altogether more just, both to the individual laborer and to the members of the medical profession, if the amount retained from each individual was placed to his credit, and paid out only for medical services rendered to him or his family, leaving him to choose his own physician, and the latter to make only reasonable and ordinary charges for service actually rendered. And, on final settlement, each workman should receive whatever balance remains unexpended of what had been retained from his just earnings.

"We think a fair consideration of the foregoing questions must inevitably develop the fact that the contract system, as represented by our correspondent, is positively unjust to the better class of laborers; very unfair to the profession at large; and unnecessary, because the benefits sought can be obtained by other methods more consistent with the principles of justice and equality in their application to all the parties concerned."

This is an editorial from the *Journal of the American Medical Association* for October 6, 1883. It is evident that it does not touch the question at issue; far less does it discuss the question or solve the difficulty.

The question before the profession is not (as the editorial implies) whether it is just for corporations to tax all of its employés for raising a fund wherewith to pay for medical services rendered to the sick or invalid few; nor is the question, whether it is just for corporations to employ any one physician for its employés, before the profession. Still less is there before the profession any question as to whether it is just or unjust for a corporation to force upon its employés one physician, when such employés may prefer another. And, least of all, is the question as to the justice or injustice of selecting one physician and excluding the rest, before the profession.

All of these issues are before the *corporations*, and they have settled them and will settle them, as they please, whether the profession like or dislike such a course.

The real question before the profession is this: As corporations tax their employés to obtain a sum to be given, as a salary, to some medical man for attending such employés, is it right for any one physician to receive such salary and to do such work: his medical brethren being thereby excluded from such employment and such remuneration? In other words, is it right for a medical man to accept a salary for professional work? The answer is too self-evident to require a recorded answer. It would be Quixotic for anyone to refuse a salary given for such a purpose. As to how corporations reimburse themselves for such an outlay, this, like the number of corrugations about the outer canthus of an old maid's eye, may be a subject for discussion, or even a matter of interest to the idle or curious; but, in the problem of the physician's income or duty, it has no place whatever. A salary for professional labor will always be offered and will be always accepted.

This does not imply, however, that physicians should "bid" or "underbid" for corporation work. No medical man who respects himself, or is worthy of respect by others, could stoop to such an act.

THE NEW JOURNAL OF THE ASSOCIATION.—At the last meeting of the American Medical Association, Dr. N. S. Davis, the editor of the new journal, very wisely forestalled adverse criticism by saying that it would take much time to produce a journal equal to that of the British Association, and asking lenient consideration from the profession. All issues of the journal have been received. Dr. Davis is a most estimable man, and a veteran editor, and he will, no doubt, in time give a good journal, if he receives sufficient pecuniary support from the profession. Last year the expense of issuing the *British Medical Journal* was $70,000; the income of the *Association Journal* is only one-sixth of this amount.

BACTERIA.—Dr. Rollin R. Gregg, of Buffalo, after laboratory experiments extending over many months, has recently boldly challenged the theory *in toto*. And not one, but several others, have asserted that Koch's tubercular germ is characteristic of all saliva, even the saliva of perfect health. Dr. Gregg declares that the so-called bacteria are merely fragments of fibrine. He boiled pure fibrine. He boiled, baked, and pulverized healthy blood. He rotted other blood under warmth. All the processes resulted in minute forms which moved violently and were identical. Now, boiling heat, it is agreed, is positively fatal to bacteria. Dr. Gregg's conclusion is that the bacteria of disease are delusions of the observers, and he asks them to repeat their experiments.

They will scarcely ask him to repeat his, for all he says may not be inconsistent with their position. But they will probably ask him to supplement his studies by others similar to theirs. They will ask him to breed his granules of fibrine down to the eightieth generation. They will request him to produce a disease with them. And they will request him to inquire regarding the unfailing existence of that species of bacteria in spontaneous cases of the disease. All this they have done. If he fails to do it, the response will be that he never saw the bacteria of disease, but mistook for them forms which he declared "identical."

THE DISCOVERY OF THE ANÆSTHETIC PROPERTIES OF SULPHURIC ETHER.—The committee appointed by the Medical Association of South Carolina to investigate the claims of the original discoverers of the anæsthetic properties of sulphuric ether, and the successful application of the same in surgical operations, presented a report at the recent meeting of the Association in Yorkville (*Med. News*, May 12), in which they drew the following conclusions: 1. For more than fifty years the inhalation of sulphuric ether as an excitant has been common in some parts of Georgia, though not practised in the colleges. 2.

Dr. P. A. Wilhite, now of Anderson, S. C., was the first man to produce profound anæsthesia, which was done accidentally with sulphuric ether in 1841. 3. Dr. Crawford W. Long, of Athens, Ga., was the first man intentionally to produce anæsthesia for surgical operations, and this was done with sulphuric ether in 1842. 4. Dr. Long did not by accident hit upon it, but reasoned it out in a philosophical and logical manner. 5. Wells, without any knowledge of Long's labors, demonstrated in the same philosophical way anæsthesia by the use of nitrous oxide gas in 1844. 6. Morton, desiring to use the gas in dentistry, asked Wells to show him how to make it in 1846. 7. Wells referred Morton to Jackson, as the latter was a scientific man and an able chemist. 8. Jackson told Morton to use sulphuric ether instead of gas, as it possessed the same properties and was as safe and easy to get. 9. Morton, acting upon Jackson's suggestions, used the ether successfully in the extraction of teeth in 1846. 10. Warren, Haywood, and Bigelow performed important surgical operations in the Massachusetts General Hospital, October, 1846, on patients etherized by Morton, and this introduced the practice throughout the world.

Dr. Wilhite, to whom credit is here given as the first man to produce profound anæsthesia, is the last and only survivor of those laying claim to the honor of this discovery. His claim is supported by his own affidavit and fully corroborated by the affidavits of Samuel B. Weir and Mrs. C. Weir, who saw a negro boy put to sleep with sulphuric ether administered by Dr. Wilhite in 1841.

THE announcement of the Medical Department of the Niagara University, of Buffalo, N. Y., is received. The course is graded, and consists of three annual sessions of six months each, with a voluntary fourth year. No thesis is required. Examinations will be conducted both orally and in writing.

THE *Medico-Legal Journal* is one of the new ventures in journalism. It is published under the auspices of the Medico-Legal Society of New York City, an organization composed of members of the legal and medical professions. The society has been in operation for a number of years, and has produced many valuable contributions to jurisprudence and toxicology.

A FATAL SPIDER-BITE.—Chancellor Carroll, of South Carolina, died August last, at Cæsar's Head, from erysipelas following the bite of a spider. About a week before this eminent jurist was walking in the woods about the famous mountain peak, and his face came in contact with a spider-web, which was suspended between two trees. The spider alighted on his chin, near the under lip, the Chancellor brushed it off with his hand, but was bitten by it in the meantime. He was attended in his illness by Dr. F. A. Miles, but after a week's suffering the distinguished jurist succumbed to the results of the spider-bite.

A NEW WOMAN'S MEDICAL COLLEGE.—About a year ago Canadian ladies were much excited over the unmannerly conduct of the students of the Kingston Medical Colleges who refused to allow female students to study in the same college with them. Considerable inconvenience was experienced by the Faculty, and the émeute resulted in active steps being taken by some of the leading ladies of the Province to found colleges for female medical students. Toronto and Kingston entered into the race, and both cities now have female colleges in active operation. The Toronto College is under the Presidency of Dr. Barrett, formerly President of the Toronto School of Medicine, and numbers among its staff of lecturers the best-known medical men of the Province. The new college building is opposite the General Hospital. The lecture-rooms are large and well ventilated. The dissecting room is separated from the main building, and will be fully provided with the necessary material for the study of practical anatomy. The college was opened October 1, in the presence of a large and influential gathering. A large number of students have enrolled their names. This event marks an era in Canadian social life, and is regarded as the commencement of a general demand by Canadian women for a more extended field of usefulness than has hitherto been accorded them.

HOW CHOLERA IS BRED AND SPREAD.—In a communication to the London *Daily News* Dr. William B. Carpenter suggests that Professor Tyndall's doctrine, that cholera germs are bred in the human intestines, and from them by means of excrement are diffused, does not go far enough in assuming by implication that the human intestines are the only breeding-place of cholera germs. Dr. Carpenter gives three remarkable instances as evidence that cholera, or at least the almost equally fatal choleraic diarrhœa, was caused by offensive piggeries, by a retarded drain in marshy ground, and by a compost heap of unnamable filth in an unused yard. The outbreak of fatal disease in each of these cases was directly traced to these sources, the effluvium being borne on the wind. In each the disease was successfully combated and finally conquered by a removal of the filthy cause.

DEATH OF DR. J. MARION SIMS.—Dr. J. Marion Sims, founder of the Woman's Hospital, and a surgeon whose fame is world-wide, died suddenly at his residence, No. 267 Madison avenue, November 13. He was in the seventy-first year of his age. He was to have sailed for Europe, with his family, November 16, en route for his Italian residence. He said on Monday, November 12, that he had not felt so well in a year, and was in the best of spirits. In the evening of the same day, with his son Dr. Henry Marion Sims, he attended a patient, and on his return sat down to write on his autobiography, about one-half of which he had finished. He complained of a little pain over his heart, but continued to write. He retired, but was restless during the night, and shortly before 3 o'clock of the next morning he turned up the gas and wrote for a time in bed. A little later his wife noticed that he was breathing in a peculiar manner and hastened to call his son. When Dr. H. Marion Sims reached the bedside his father gave one short breath and expired at 3.15 A.M. A post-mortem examination of the body, made by Dr. Peabody, assisted by Dr. Welch, showed that death resulted from athermatous degeneration of the muscular fibres of the coronary artery of the heart. Dr. Sims leaves a widow and six children. Two married daughters are in Europe, one is Mrs. Carr, of this city, and one is unmarried. His two sons are Dr. Henry Marion Sims, who was a partner of his father, and W. M. Sims. The death of this great man has caused a wide-spread feeling of sorrow in this community, and will be profoundly lamented throughout the civilized world. More in next number.

PHOSPHORUS AS A REMEDY

FOR LOSS OF NERVE POWER, NEURALGIA, HYSTERIA, AND OTHER CONDITIONS OF THE CEREBRO-SPINAL SYSTEM AS INDUCED BY OVERWORK AND OTHER INFLUENCES INCIDENTAL TO MODERN LIFE.

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℞ Pure Unoxidized Phosphorus, 1-50 gr.
Strychnine, - - - 1-60 gr.
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THERAPEUTICS. PHOSPHORUS has recently been prescribed with great advantage in cases of extreme debility and mental depression, from prolonged anxiety, or excessive excitement; also, in nervous prostration from overwork, especially brain-work. It is recommended in cases which are attended with great prostration of the vital powers; in exhausting diseases, such as Cholera, Diphtheria, and the latter stages of Typhus and other Fevers, etc. In Epilepsy, Epileptiform-Vertigo, Melancholia, Softening and some other diseases of the Brain, it has been given with marked benefit; also in Neuralgia, Tuberculosis, and Scrofula, in chronic and inveterate diseases of the skin, Leprosy, Lupus, and Psoriasis. Dr. Burgess recommends it in Pruritus Pudendi and other forms of Pruritus.

PHOSPHORUS, STRYCHNINE, AND IRON, combined in the proportions above indicated, is a safe and valuable remedy. As a nutritive tonic and stimulant to the nervous system, especially the spinal cord, it is admirably adapted for the treatment of a large number of nervous disorders dependant on defective nutrition and debility. It increases the appetite and promotes digestion. It may be safely given in all those cases in which hypophosphites are employed. It is strongly recommended in *Consumption*, *Neuralgia*, *Atonic Dyspepsia*, *Lowness of Spirits*, *General Debility*, and in that general condition of depression and loss of power popularly known as *below par*, and in *breakdown* from overwork and mental fatigue

DIRECTIONS: Take one Pill, with breakfast, dinner and tea every day, until 100 pills have been taken, when it would be advisable to leave off taking the Pills for a week, and then resume them every second day. Should digestive troubles intervene, suspend their use for a few days or give less frequently.

THE PILULAR FORM is deemed to be the most desirable for the administration of Phosphorus. In Warner & Co.'s pills the Phosphorus is in a perfect state of subdivision, and is not oxidized. *Warner & Co discovered and brought to perfection this method of preparing Phosphorus for medicinal use.* It is presented in its *elementary state*, free from those repulsive qualities which have so long militated against the use of this potent and valuable remedy. These pills possess the necessary qualities of purity and definite strength, are small in bulk, and are perfectly tasteless.

SUGGESTIONS AS TO REGIMEN: To sum up the general principles of the employment of Phosphorus as a nerve tonic, for which it is recommended, the special treatment indicated is:

1st. Complete rest of mind; especially, abstention from all occupations resembling that upon which the mind has been overworked.

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3d. Tranquility to the senses, which expressly give in these cases incorrect impressions, putting only those objects before them calculated to soothe the mind.

4th. A very nourishing diet, especially of shell-fish.

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TO THE MEDICAL PROFESSION.

LACTOPEPTINE

DEMONSTRATED SUPERIORITY OF LACTOPEPTINE AS A DIGESTIVE AGENT.

Certificate of Composition and Properties of Lactopeptine by Prof. ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Prof. of Practical Chem. to the Pharmaceutical Society of Great Britain.

LONDON, May 8, 1882.

Lactopeptine having been prescribed for some of my friends during the past five years—apparently with very satisfactory results—its formula, which is stated on the bottles, and its general characters, have become well known to me. But recently, the manufacturer of this article has asked me to witness its preparation on a large scale, to take samples of its ingredients from large bulks and examine them, and also mix them myself, and to prepare *Lactopeptine* from ingredients made under my own direction, doing all this with the object of certifying that *Lactopeptine* is what its maker professes it to be, and that its ingredients are in quality the best that can be obtained. This I have done and I now report that the almost inodorous and tasteless pulverulent substance termed *Lactopeptine* is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, *Lactopeptine* is a skillfully prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of acids that are always present in the healthy stomach; all begin to be disseminated in an appropriate vehicle, namely, powdered sugar of milk. The acids used at the factory—lactic and hydrochloric—are the best to be met with and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase" or starch-digesting (bread-, potato-, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredients, are as good as any I can prepare; while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards the chief ingredient, pepsin, I have only met with one European or American specimen equal to that made and used by the manufacturer of *Lactopeptine*. A perfectly parallel series of experiments showed that any given weight of acidified pepsin, alone at first acts somewhat more rapidly than *Lactopeptine* containing the same weight of the same pepsin. Sooner or later, however, the action of the *Lactopeptine* overtakes and outstrips that of pepsin alone, due, no doubt to the meat digesting as well as the fat digesting powder of the pancreatin contained in the *Lactopeptine*. My conclusion is that *Lactopeptine* is a most valuable digesting agent, and superior to pepsin alone.

JOHN ATTFIELD.

LACTOPEPTINE contains all the agents of digestion that act upon food, from mastication to its conversion into chyle, thus combining all the principles required to promote a Healthy Digestion.

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BUFFALO LITHIA WATER,

A SOLVENT OF STONE IN THE BLADDER.

STONE OF THE TRIPLE PHOSPHATE.

se of Mr. C ——, of North Carolina, stated by Dr. G. Halstead Boyland, Professor of Surgery, Baltimore Medical College; Late Surgeon French Army, Decorated; Member of the Medical and Chirurgical Faculty of the State of Maryland, etc.

" The case of Mr. C ——, of North Carolina, who arrived at the Springs June 21, affords undoubted evidence that Buffalo Lithia Water
ing No. 2, is a Solvent for Urinary Deposit, commonly called '*Stone in the Bladder.*' About a year previous he was operated upon for
ne, the operation affording but partial and temporary relief. He complained of pain in the Lumbar Region, and pain and irritability of
neck of the Bladder. He was emaciated; suffering greatly from Insomnia, and his general condition very unfavorable. Upon arrival
he Springs he was passing small quantities of a Urinary Deposit of the *Triple Phosphate of Ammonia and Magnesia* variety. Large flakes
bloody mucus were found in the urine. For the relief of present suffering he was making frequent and free use of opiates. He was
upon the water of Spring No. 2—from six to eight glasses a day. In a few weeks the *Solvent Properties of the Water* were evident in the
ninished consistency of the Deposit, the increased quantity discharged, and by its change from *Concrete Lumps to Fine Sand,* which he
charged to the amount of *four ounces.* The quantity, however, diminished, until, after a stay of six weeks at the Springs, he has returned
ne with the *Deposit* dissolved and washed out of the system, and the *Diathesis Fons et Origo Morbi* altered. There has been a disappear-
e of the attending distressing symptoms described, and great improvement in his general condition."

STONE IN THE BLADDER (URIC ACID).

Case of Dr. B. J. Weistling, Middletown, Pa., stated by himself.

" Experience in its use in *Stone of the Bladder* in my own person enables me to attest the wonderful efficacy of the Buffalo Lithia Water
this painful malady. After having been long subjected to sufferings, the intensity of which cannot be described, I have, under the
uence of this water, passed an ounce of *Calculi* (*Uric Acid*), some of which weighed as much as four grains, affording inexpressible relief
leaving me in a condition of comparative ease and comfort.

"On one occasion I passed thirty-five *Calculi* in forty-eight hours. The appearance of this *Calculus Nuclei* indicates umistakably, I think,
t they were all *component particles of one large Calculus, destroyed by the action of the water, by means of solution and disintegration.* At my
anced period of life (I am seventy-seven years and six months of age) and in my feeble general health a surgical operation was not to be
ught of, and the water seems to have accomplished all that such an operation, if successful, could have done."

STONE IN THE BLADDER, AND HEMORRHAGE FROM THE BLADDER.

Case of Mrs. ——, stated by Dr. J. B. Jones, Charlotte, N. C., Member Medical Society of North Carolina.

" Mrs. —— suffered with *Stone in the Bladder,* composed of alternate concentric layers of *Calcareous Matter and Lithic Acid,* attended
h occasional alarming *Hemorrhage* from the Bladder.

" In a critical condition I prescribed for her Buffalo Lithia Water, Spring No. 2, the continuous use of which *arrested the formation of
e* and diminished both the frequency and the violence of the *Hemorrhage.*"

URIC ACID CALCULI.

Case of Dr. J. D. Eggleston, Hampden Sydney, Va., Member Medical Society of Virginia, stated by himself.

"The action of the Buffalo Lithia Water in the so-called *Uric Acid Diathesis* is especially happy.

"I have a very gratifying experience in its use in a case of *Uric Acid Calculi,* in my own person. Between February 1st and May 1st.
1, I had thirty attacks of great severity, passing in each one of them a number of Calculi, aggregating 165. Finding no permanent
efit from any treatment of the profession, I made a vist to the Buffalo Lithia Springs. The happy adaptation of this water to my con-
on was soon evident, and its use for a few weeks arrested the *Calculus* formation and resulted in my entire relief, which I have reason
ope is permanent, as more than a year has elapsed since there has been any manifestation of the trouble. In affections generally of
Urinary Passages requiring Alkaline treatment, I know of no remedy of equal potentcy with this water."

TONE IN THE BLADDER (URIC ACID), SYMPTOMS OF BRIGHT'S DISEASE.

Case of Mrs. ——, stated by Dr. David E. Smith, of Bronxville, Westchester, N. Y.

" Mrs. —— was subject to severe attacks of *Gout,* a consequence of an inherited *Gouty Diathesis,* followed after some time by *Stone in
Bladder.* The limbs were very *Œdematous,* so much so as to pit readily on pressure with the finger, leaving an indentation long after
removal. The urine was loaded with *Urates* and 25 *per cent. Albumen,* and the microscope revealed *Casts,* showing unmistakably, as I
ight, *Bright's Disease of the Kidneys.* I prescribed the Buffalo Lithia Water, Spring No. 2, which afforded prompt relief in the *Gouty
ction,* and resulted, in a few weeks, in the passage of a stone ⅝ of an inch long by ¼ of an inch in diameter. Under the continued use
he water the urine has been relieved of *Albuminous Impregnations,* and restored to a normal condition, no *Casts* can be discovered, the
matous condition of the limbs has been relieved, and the general health of the patient, to a great extent, restored."

STONE IN THE BLADDER, PHOSPHATIC.

A Case stated by Dr. B. S. Hardy, Hookerton, Green Co., N. C.

" My son, a young man, suffered from *Stone* in the *Bladder,* of a *mixed character,* consisting chiefly of *Calcium Carbonate* and *Phosphate.*
r persistent use of all remedies indicated in the case without benefit, I put him upon Buffalo Lithia Water, Spring No 2, the use of
ch for some six weeks, resulted in the passage, at short intervals, of *Gravel,* of small size, and at times of particles of *Sand* followed,
e time afterward, by the discharge of a *Stone* weighing twelve grains (the largest, I am confident, I ever knew to pass through the
thra), virtually ending his troubles, since which time any unpleasant symptom has been relieved by the use of the waters for a short
e. Its action in this case has been indeed wonderful."

URIC ACID GRAVEL.

A Case stated by Dr. Hasford Walker, of Georgetown, S. C.

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AND

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ORIGINAL ARTICLES.

ARTICLE I.—LIFE OF DR. J. MARION SIMS, AS GIVEN BY HIMSELF, WITH SOME COMMENTS ON HIS DEATH.

IN a previous number of this JOURNAL there was given a brief notice of the sudden death of this distinguished man, with the statement, that a subsequent issue of the JOURNAL would contain material of interest and value. There is, therefore, here presented an account of the chief facts of his life, as furnished to the writer, ten years ago, by himself. The source of these facts must, therefore, give to them at the present time a peculiar interest and manifest value.

J. Marion Sims was born in Lancaster District, S. C., January 25, 1813. He graduated at the South Carolina College at Columbia, in 1832; studied medicine at Charleston and at the Jefferson Medical College in Philadelphia, graduating in 1835. He commenced practice in 1836 in Montgomery County, Alabama. In 1845 he called the attention of his medical brethren to his new theory of the nature and origin of Trismus Nascentium; and upon this subject he published a series of articles in the "American Journal of Medical Sciences" in 1848. In 1845 his attention was specially directed to the subject of vesico-vaginal fistula, a disease which, previous to this time, had been considered incurable. Establishing a private hospital at Montgomery, where he then resided, for the treatment of this affection, Dr. Sims commenced a series of experiments, which, after four years of unremitting labor, were crowned with success. During this time he supported his hospital at his own expense. His discovery was the use of sutures of silver wire in place of the silken and other sutures formerly used. He extended the use of metallic sutures to every department of general surgery, and their superiority is now generally recognized. He at this time (1845) invented the speculum that bears his name, and perfected all the mechanical contrivances necessary for the successful treatment of vesico-vaginal fistula. In 1850 his health failed; a change of climate became necessary, and he removed from Alabama to New York in 1853. Here he desired to establish a large hospital especially for the treatment of the diseases of women. To this end he delivered an address upon this subject in May, 1854, before the profession. They resolved to carry out his views, and a Woman's Hospital Association was then formed under the auspices of some of the ladies of New York. The female managers raised the necessary funds, rented a building in Madison Avenue, and opened a temporary hospital in May, 1855. They elected Dr. Sims attending surgeon. Dr. Valentine Mott, Dr. John W. Francis, Dr. Alex. H. Stevens, Dr. Horace Green, and Dr. Ed. Delafield, were the consulting board; Dr. Emmett was assistant surgeon. The hospital was immediately filled with patients from all parts of the country. Its successful working soon demonstrated not only the beneficence of such an institution, but proved the necessity for a larger and permanent one; and in 1867-8 Dr. Sims obtained from the Legislature a new charter for a State institution, now known as the "Woman's Hospital of the State of New York." He also obtained a grant of land from the city of New York for said hospital. This plot of ground, 200 by 400 feet, with open streets on all sides, is located about half a mile southeast of the Central Park, very near Columbia College, containing thirty-two lots, and is now valued at over half a million dollars.

The hospital is throughout on the pavilion plan. In 1866 the first pavilion, containing seventy beds, was finished and occupied; three others have been added. The Woman's Hospital is supported by voluntary contributions. It has received about $62,500 from the State and city. The balance of the funds for the building was raised by private subscription. In 1869 it received from Mr. Baldwin, a retired New York merchant, the handsome sum of $84,000 in stocks and bonds to be expended in the erection of other pavilions. In 1861 Dr. Sims went abroad, and wherever he made his appearance he was welcomed by the profession, and invited to perform the peculiar operations associated with his name and discoveries.

He operated in nine different hospitals in Paris before the great surgeons of the day, and always with success; and in 1864 the French Government conferred upon him the order of Knight of the Legion of Honor. The surgeon of the King of the Belgians hearing that Dr. Sims was operating so successfully in Paris, went there especially to invite him to go to Brussels to repeat his operations in the hospitals there. He accepted the invitation and repaired promptly to Brussels, where he spent almost an entire day in the hospitals with the Belgian professors. So pleased were they that they immediately elected him a Corresponding Fellow of the Imperial Academy of Medicine, and they recommended his name to the King's Government for the order of Leopold I., as a recognition of the great service he had rendered them. The Government promptly conferred the honor, but the American Minister, Mr. Sanford, objected to his receiving it, on the ground that he was a southern man, and politically a southern sympathizer.

In 1866 he published, in London, his work—Clinical Notes on Uterine Surgery. In a few weeks it was republished here by the Woods, and it was translated and published simultaneously in French and German.

Soon after this publication he received decorations from the Spanish, Portuguese and Italian Governments, and in 1869 received a second order from the Italian Government. In 1870 Dr. Sims organized in Paris the Anglo-American Ambulance Corps, and, as surgeon-in-chief, went with it to Sedan, fortunately arriving there just as the great battle began (August 31st) which ended in the downfall of the Empire. This corps was composed of eight Americans and eight Englishmen. Its work at Sedan has been ably set forth by Sir William MacCormack, then of Belfast, now surgeon to St. Thomas's Hospital, London.

Dr. Sims's writings have not been as voluminous as could be wished. His papers on Trismus Nascentium (1848), his "Silver Sutures in Surgery" (1858), a paper on the Microscope in the Sterile Condition (1869), and his work on Uterine Surgery, comprise chiefly his writings.

Dr. Emmet, the pupil of Dr. Sims, had entire charge of the Woman's Hospital from the time Dr. Sims went to Europe, in 1862, till May, 1872, when it was found to be too much for any one surgeon, and the governors of the hospital divided the wards into four sections, and remodeled its whole organization by appointing a surgeon to each section. The appointees were Dr. T. A. Emmet, Dr. T. G. Thomas, Dr. E. R. Peaslee, and Dr. Marion Sims. With four such men at its head it quickly achieved a brilliant success.

This is not the proper occasion on which to give the facts which induced Dr. Sims to withdraw from this institution. They will, doubtless, appear before the public in due time, and in an appropriate manner. It suffices, however, to say that he did not leave this hospital without ample reasons for so doing, and not until it had achieved that perfect success which it so fully deserved, and for which he had always given many of the busiest and most distinguished years of his busy and distinguished life.

Since that period Dr. Sims worked almost exclusively in private practice. His writing for the medical profession was devoted chiefly to the discussion of practical subjects; his address as President of the Gynæcological Society, in 1881; his paper on the Bromide of Ethyl, with the facts of its use in one fatal case; and his paper on Surgical Wounds of the Abdominal Cavity (in 1882), being the chief products of such labor.

In 1875, Dr. Sims was elected President of the American Medical Association, and though he was the presiding officer of many institutions in his life, and an active and honorary member of many, he was especially gratified by his election to the presidency of the chief medical society of this country.

In 1836, he married Eliza Theresa, daughter of Dr. S. Bartlett Jones, of South Carolina. He had nine children, and had lost but two.

In the winter of 1881 Dr. Sims was prostrated with a very severe attack of pneumonia. He sought to recover entire strength by residence in southern Europe, where he spent most of the year 1881, and the winter of 1882–3.

He returned home in August, 1883, and was believed to be, and believed himself to be entirely well again. During the months of September, October, and November (in part) he labored assiduously in private practice, and believed that he had many years of usefulness and happiness before him. To be prudent, however, he had intended to spend the winter of 1883–84 in Italy, but died during the week at the close of which he was to have taken his departure; died in the midst of his labors, full of ambition and energy, the recipient of world-wide distinction and enduring fame. A noble man; a brilliant and original surgeon; respected everywhere; loved with a unanimity as marvelous as it was just; lovely in his devotion as a son, husband, father and friend; closing a life without spot or blemish; mourned in death wherever medical science is known, and by a vast army of sincere admirers and devoted friends. Such, in brief, was Sims. There are many living now and many to live hereafter who will do justice to his memory, who will bring the choicest flowers of justice and eulogy as fit offerings in behalf of so sweet and useful a life, but it is yet the privilege of friendship to lay this humble tribute, these simple flowers, on his recent grave.

It is marvellous that such a man could have closed such a life, in such a city, amid thousands with strong brains to appreciate and large hearts to love him, without public tributes worthy of the solemn, the historic occasion. One would have said that a meeting of all the physicians of the city would have been called, with his myriad of unprofessional friends as part of the assembly; that fitting eulogies would have been delivered; honorary pall-bearers appointed; the profession going bare-headed in a body to his funeral; and the world made to learn and feel that such a physician could not fall amid his associates without professional tributes wide-spread, sincere, and overwhelming. Yet, such is the fact. There were no public manifestations, even by the profession; and at his funeral services there were few indeed of those whom all would have expected to see there. But the end is not yet. The record is yet to be made up. Every medical society in Christendom will lay tributes upon such a grave, and the medical press will become an omnipresent monument in behalf of such a memory.

And now that this great man, this distinguished surgeon, this pre-eminent

American has gone to his rest, what will the profession that he so loved and who so loved him do to honor and perpetuate his memory? There is but one course that will please and satisfy all, and that is to erect, in bronze, a statue of himself, as his best and most fitting monument. Every physician and hundreds not physicians will gladly contribute to it. Let it be placed in the court, or the vestibule of the "Woman's Hospital" in this city. That is the proper place at which to honor him, and the bronze statue of himself is the proper and manifest mode of doing this.

ARTICLE II.—THE EMINENT DOMAIN OF SANITARY SCIENCE, AND USEFULNESS OF STATE BOARDS OF HEALTH IN GUARDING THE PUBLIC WELFARE.* By JAMES E. REEVES, M.D., Secretary of the State Board of Health of West Virginia.

MR. PRESIDENT: I propose a few inquiries into the truth of the proposition which I consider vitally important not only to the State, but to the general interest of every social institution. The proposition to which I allude may, with some convenience, perhaps, be expressed in the following terms:

Without obedience to the laws of health, it is impossible to secure the highest culture of the citizen—physical, moral, and intellectual—and perpetuate the prosperity, freedom, and glory of the State.

Should I succeed in establishing the truth of this proposition, the labor of sanitarians will be more justly appreciated, as well as the immense agency exerted by State boards of health amid the restless activity and excitements of the social and political elements of our advancing and complex civilization.

The principles of sanitary science are not of modern origin. Indeed, they are as old as the Mosaic code, and their unerring rewards and penalties have marked the life-history of all the nations that have covered the earth. In their scope, they are wide enough to embrace all humanity, and just as applicable to communities of to-day as they were to the Jewish race thousands of years ago.

It may be truthfully said that the business of sanitary science begins and ends with man; but language has no single or compound word which fully expresses its varied relations—its social forces and necessities to human life and human society. Its aim is the growth of an improved race—a healthy life—a useful life—a happy life—and as long a life as possible. Commencing with utero-gestation, it compasses birth, infancy, childhood, adolescence, puberty, adult life, maturity; thence along the declivity to old age, and to death! Every influence of food and drinks, clothing, exercise, education, soil, and climate, comes within its purview. Good health, therefore, embraces value in the broadest sense of that term. On the individual it confers happiness, dignity, and a thousand advantages in the struggle of life. To the State it gives wealth, power, and freedom.

Public health ever goes hand in hand with true liberty, and is the companion of orderly habits and pure morals. During the fourteenth century, when vice and misrule in Europe had their greatest sway, and the beautiful fruits of civilization were trampled under foot by barbarian warriors; when acquisitions that had cost mankind ages of toil and millions of money were lost in the general wreck; when the night of ignorance was darkest, and human degradation sunk to the lowest depths—then hygiene was neglected and plagues numerous and almost universal rested upon the people.

But this is only one of the many examples that could be adduced in proof that general health and longevity are inconsistent with ignorance and slavery. Greece, with the loss of her liberty and the ruin of her cities, has an altered climate, dating back, perhaps, from the years of the Peloponesian War—more than four hundred years before the Christian era—when polished and populous Athens was devastated by fire and sword, and plagues followed in the train to complete the horrors of her lamentable desolation and downfall!

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* Read before the American Public Health Association, at its annual meeting, held at Detroit, November 13 to 17, 1883.

In London, about the middle of the sixteenth century, the population was estimated at half a million, and the average duration of life was only twenty-five years—eighty dying annually out of every thousand of the population. The streets were narrow, scarcely paved, and equaled the imperfectly constructed sewers as receptacles of all manner of abominable filth; the dwellings, principally of wood, were overcrowded, and no attention whatever was paid to their ventilation; water was scantily supplied; personal and domiciliary cleanliness were neither encouraged nor enforced; and the city was given up to licentiousness. Then, in 1665, London was visited by plague, and it is recorded that in one night three thousand persons perished from that terrible disease; and that up to 1679 the mortality from that source alone amounted to one hundred thousand! But now, with its improved sanitation, its stupendous sewers which have been recently completed at a cost of twenty millions of dollars, and its population increased to millions, how different the result! Instead of twenty-five years, the average duration of life is above thirty-seven years, and the rate of mortality, instead of eighty, is a fraction less than twenty-four in a thousand of the population.

Calcutta, built on a swamp on the east side of the Hoogly, and, at a few miles distance, surrounded by lakes which are supplied from overflows of the river, by a proper system of drainage of that part of the city inhabited by Europeans, has become as healthy as any country of the same latitude on earth; while, on the contrary, Stockholm, built on small islands at the entrance of Lake Malar, with a mean annual temperature of 40° F., and possessing the requisite natural advantages, if properly guarded and improved, to make it one of the healthiest cities in Europe, is, because of gross disregard of sanitary laws—imperfect drainage and a bad supply of water to the houses—one of the unhealthiest in that quarter of the globe, as shown by the death-rate.

Sanitary science, therefore, is a segment of political economy, and should receive encouragement by the State as a wealth-creating factor—riches, indeed, to the whole people far above that of any other earthly value.

It has become a classic saying that "public health is public wealth;" but who can estimate it rightly? Every case of sickness and the loss of every life from preventable disease is a tax upon the material wealth of the State and a great sorrow to the family. Count the number of deaths in a community for any given period, multiply it by thirteen—the estimated number of sick on hand for each death—and you have the average total of sick persons cared for at an expense much greater than would have been necessary for their support in health. In addition to this estimate, let us remember that at least one-third of all the cases of sickness and of the deaths that occur are preventable; that this suffering and continuing tax on health and life are in direct antagonism to industry and the general prosperity; that the visitation of diseases falls heaviest always on the poor and most helpless classes of the community; and that the pressure of bad health and poverty, with their far-reaching ill effects upon the growing and reproductive parts of the population, tends to deterioration of the race.

In times of epidemic visitation, all these ill influences culminate in general distress of the people. Let Asiatic cholera come, smiting the young and old, withering the pride of manhood and the beauty of youth—in many sections marring, in others obliterating the festivities and gaieties of life, robing the social circle and the family group in the garments of grief, spreading the gloom and striking the panic of sudden death—then, for the time, possibly, the value of public health, as well as legal statutes to protect it, will be justly appreciated; for, besides the general affliction from sickness and death, the direct loss of money would probably equal in amount, during the time, the whole expenditures of the national Government.

Political economists have said the cash value of the life of an able-bodied, industrious man is sixteen hundred dollars, and that the average value of men, women and adolescents of both sexes above twelve years of age, is one thousand dollars. Now, accepting this estimate as a fair and proper basis for calculation of the wealth stored up in the United States, we may have some conception of the real value of the earnings of the human machine.

Besides native wealth, our country is enriched annually from immigration. Every steamer that plows its way to our shores comes freighted with human souls to swell the population of this country and enlarge the profits of labor. No migration of men has occurred in the world at all similar to that which has been pouring itself upon the shores of the United States for the past five years. In a single week we have again and again received into the bosom of society numbers as great as a Gothic army possessed in its ranks, and passed them away without hurt and without terror. Week after week, again and again they come—each vessel bringing frequently a thousand souls, a number greater than was borne by a fleet of many ships in the days when Greece invaded Ilium, or Xerxes, Greece.

The question of immigration is, therefore, one of grave importance to American statesmen. It involves political, moral and social consequences of a magnitude too vast for common apprehension. Who shall assume to tell what precise result will follow in this country from the bringing together of races of men hitherto comparatively isolated? Or who shall say whether the intellectual and physical power of the Anglo-Saxon, the cool and industrious vigor of the Teuton, or the elasticity and fire of the Celt, shall be the controlling influence in the coming time? That the inferior must recede or disappear before the superior races is an inevitable result, sanctioned alike by reason, analogy and the indisputable records of history. Nature's leaves, wherever civilization and science have unfolded them, bear the plain evidences that such has been the eternal course of her wise, although sometimes inscrutable, laws.

Let us hope that from the fusion of all these different families and different bloods there shall spring a composite race of men of far greater capacity than those who at present govern the nation—a race which shall have no jarring prejudices, and be animated by only the loftiest sentiments for the common welfare.

It is computed that by immigration our country is annually enriched fifty million dollars, and with net profits of labor amounting to sixty-five million dollars. The great Northwest is receiving the larger share of this wealth; but along with it there are some threatenings and dangers which well deserve wise attention. The immigrant brings with him not only his money, but also his habits of life and heredity. These may either be very good or very bad. If the former, then his citizenship is a substantial acquisition to the wealth of the State. If the latter, he is at once both a moral and physical leper, and of incalculable danger to society. Fortunately, however, thus far the assimilative and moral forces of our American institutions have been sufficiently active to absorb this immense immigrant mass and convert it into strength of the nation.

But notwithstanding the seeming capability of our institutions to swallow up, easily digest, and assimilate the stream of humanity which is constantly pouring into this country from the Old World, we must not shut our eyes against the manifest and increasing tendency of this commingling of moral and social habits to greater latitude and excesses than are to be found in either of the parent countries. In other words, the demand for labor of every character, its handsome rewards, and the plenty of money, are powerful temptations to influence a departure from simple and correct habits of life, with their almost never-failing accompaniment of good health.

The popularity of the milder alcoholic beverages—ale, beer, and wine—is directly due to the influence of our adopted fellow-citizens in all classes of society. I should be untrue to myself, to my position, to the medical profession, and to humanity, if I let this opportunity pass without sounding a note of warning against the intemperate use of alcoholic drinks, and to speak of their influence to debase the citizen and his progeny—physically, morally, and mentally—and deny him and them good health and longevity.

The connection between drunkenness and crime, and between drunkenness and poverty, is close and unvarying in its effect upon society. The remarkable increase of insanity in recent years may, in part, be traced to the prevalence of the intemperate use of intoxicating liquors. That wine, beer, and the stronger beverages, when taken in excess, all tend to derange the mental manifestations, is a fact too familiar to medical men to require of me argument to prove its truth. They act upon and disorder the brain more directly, perhaps, than any other organ; and, by habitual excess, may at last induce permanent impairment of the mental faculties.

In times of epidemic visitation—when pestilence is sweeping the country—the intemperate and the drunkard are the first to fall by its arrows of death; and the chances of recovery from any disease or injury whatever are infinitely less for the drunkard than for the sober man. Were man to live as he should do—enjoying every good gift and abusing none—he would (saving accidents) live to extreme old age without disease. But alas! how many such careful, prudent, temperate lives could there to-day be found in this great country of ours, where a kind Providence has made it possible for us to enjoy every blessing the whole world can afford? The denunciation by the prophet Isaiah—"Woe to the drunkards"—"Woe to them that are mighty to drink wine"—is not only in course of fulfilment every day with the drunkard, but the curse extends to his children yet unborn, even to the third and fourth generation, by inheritance of appetites which are far more constant and certain in their descent than patrimony.

It has been asserted that at least seven-tenths of all the crimes and poverty and calamity to the people of the United States spring from the abuse of personal liberty in the use of spirituous, vinous, and malt liquors; and, if the charge be true—either in whole or in part—it is a subject which should concern sanitarians. Vice needs every possible exposure and discouragement to prevent its seeds from growth, and the lesson should everywhere be taught that good health and long life cannot dwell in association with a poisoned mind or an upbraiding conscience.

The public school system of the United States is the great national laboratory for shaping, refining, and directing, on a progressively higher intellectual, moral, and social plane, the tendencies of American citizenship. In its plastic mold the children from immigrant families are freely mingled with native English-speaking youth; the lessons there taught and the manners prescribed and enforced are carried to the homes of the children in every class of society to cultivate and ennoble the aspirations of parents and guardians, and combat immoral and debasing influences which have crept into our civilization.

In the American public school system, therefore, are centred the greatest trusts and brightest hopes for the future of the Republic. It is the nursery of statesmen, philosophers, scientists, and patriots; and, being invested with such a high and mighty alliance of interests, it has become the particular care of sanitarians as the vineyard for the nurture and growth of a healthy race of men and women who shall lead the whole world in civilization. How important then, that guardians, principals, and teachers in our common schools, shall be thoroughly qualified, by special training in physiology and hygiene, for the discharge of the high responsibilities with which they have been clothed by the community and the State!

If the opportunity of the school-room for the dissemination of the principles of sanitary science were properly appreciated and diligently improved by teachers, it would soon come to pass that all classes of the people would pay respect and render obedience to its laws. Physiology and hygiene should receive far more attention than is now usually given these studies. At present, in many schools, they are treated as if they belonged to the ornamental branches of education rather than the useful, and are taught by title instead of by direct practical examples gathered from the every-day life of school children.

In country districts, school life has many more exposures to unhealthy influences than are suffered in towns and cities. For example, it is no uncommon experience for some of the children to walk two or three miles—sometimes double that distance—every day they attend school; and, when the weather is wet and the roads muddy, they are frequently compelled to enter their classes with cold feet and damp clothing, and remain in that chilly, uncomfortable condition until the period of recess arrives, or, may be, until their return home in the evening. In winter time, when the roads are icy and slippery, or when the ground is covered with snow, and travel on foot most disagreeable and fatiguing, those who have long distances to walk must hurry their footsteps to escape being tardy in their appearance at roll-call, and, when they enter their classes, are all aglow and perspiring. In that condition they take their seats, soon feel chilly, and are too sleepy and stupid to take interest in the lessons. At noon, when the hour for dinner arrives, they eat hurriedly the cold food contained in their little baskets and buckets, but not, usually, with as sharp appetite and good digestion as when they are at home. Immediately after dinner they engage too vigorously in all sorts of play—running, jumping, "chasing the fox," base-ball, and various other fatiguing and relaxing exercises—so that by the time of the call "to books!" they are as tired and indisposed to study as when they reached school in the morning. Then, after dismissal, in the evening they are again tired out by the walk home, and thus they are more or less exposed to unhealthy influences every day during the school term.

The management of country schools should provide special accommodations for the relief and comfort of children who come with damp clothing and wet feet. This can be easily accomplished in a well-appointed reception-room for each sex, where should be kept always on hand and ready for use a sufficient number of pairs of shoes and stockings of different sizes, also several warm wraps with which to clothe and warm the tenderest of the exposed pupils until their own shoes and stockings and other garments are dry enough to put on, and they are ready to enter their classes.

Parents who are able to do so should be encouraged to supply the school store room with an extra suit of clothing for each child they send, and, no doubt, in every community there could be gathered enough subscriptions of that kind from humane, well-to-do persons and families to meet the wants and needs of the poorer children at school whose wardrobes are already too scantily supplied to afford them comfort and proper protection in cold weather. Nowadays, however, rubber shoes, "gossamer" circulars, and gum coats have become so cheap and common it would seem that even the poorest families should be able to provide such articles of protection for their children.

To perfect the system I have indicated for guarding the health of school-children, and at the same time to cultivate a spirit of benevolence, there should be appointed by the principal or teacher, at the beginning of each quarter, a special committee—to be known as the Health-Saving Service—composed of both boys and girls selected from the older and more advanced pupils, and charged with the responsible duty of looking every day after the welfare and comfort of those who need assistance, particularly the little ones. At the close of each week this committee should be required to make formal report of its labors to the teacher or principal, naming the pupils relieved and the particular service rendered in each case. Then, at the end of the school term, a handsome premium should be awarded to the pupil who has taken greatest interest in the work or performed the largest number of acts of assistance.

All examples of exposure of health during school life should be seized by teachers and made the texts of little lectures on the principles of personal, domiciliary, and public hygiene. They should point to the danger to health from wet and cold feet, too violent exercise, sitting on the ground or in draughts when the body is warm and perspiring, excessive indulgence in eating and drinking, insufficient or improper clothing, breathing a bad atmosphere in crowded rooms—all these and every other like impropriety or transgression of the laws of health should be made as plain as simple language and apt illustration can portray them.

It should be impressed upon the attention of school-children that the diseases which kill them in greatest numbers have been classed by wise men as filth diseases; that small-pox is easily preventable by vaccination; that scarlet fever, diphtheria, typhoid fever, yellow fever, cholera, and even pulmonary consumption, are preventable by cleanliness and correct habits of life; that there are farm-houses in all parts of the country, groups of houses in every community, whole villages, sections of towns, and districts in cities where slovenliness and filth so much abound that sickness in some form is present at all seasons of the year; that filth does not only infect the atmosphere immediately surrounding its accumulation, but can and does transmit its germs afar; and thus it has again and again happened that whole families, with every apparent surrounding of cleanliness, comfort and luxury, have sickened and died from infection received through the channel of some drain-inlet, or the medium of the common water-supply.

The more surely to fix the memory of these truths, the teacher should employ illustration on the blackboard to show dangerous proximity of the family residence, the stable and barn-yard, the pig-sty, the duck-pond, the privy-vault, and the kitchen sink-drain, to the water-supply in the well or cistern. He should also tell how the atmosphere in the house may become poisoned and breed disease from decaying vegetables stored in the cellar; how the milk-supply of the family may become contaminated with filth and dangerous to drink; how dwelling-houses, workshops, and factories should be constructed to be healthy to live in and occupy; and how necessary, for the maintenance of good health, that they breathe fresh air, drink pure water, and have plenty of well-cooked, wholesome food.

Besides examples drawn from village and country life, the teacher in the city school may show, by diagram on the blackboard, the system of sewerage usually adopted in towns and cities; the importance of traps to prevent the inlet of deadly gases from the public sewers through the channel of the kitchen-sink waste-pipe, the soil-pipe of the water-closet, and the overflow-pipe of the bedroom stationary wash-stand; the great danger to health from the imperfect ventilation of dwelling-houses, school-rooms, theatres, churches, and public halls; the manner of the water-supply; the danger from open cesspools; the necessity of guarding the public markets and green-groceries, to prevent the sale of tainted meats, stale vegetables, and decaying fruits; and not the least to be dreaded and shunned—public funerals from infectious and contagious diseases.

In the city there are also every-day opportunities to "point a moral" from drunkenness, and from police arrests for various offences which disturb the peace and good order of society. Such examples should be used to show the penalties and hardships of vice in contrast with the honorable and lasting rewards of a temperate, virtuous life. To encourage morality and the growth of true manhood, the lives of good men in contrast with the character of bad men should be presented for study. For example, liberty-loving Lafayette should be contrasted with that "great bad man" Mirabeau, his fellow-countryman, who had a mind of the highest order, and eloquence the most commanding and impressive, but his commentary on national liberty was personal licentiousness. A look into American history and biography will find the experience of Jefferson in proof that habits of temperance win long life and good health. Then, in English history, it may be seen that Sheridan, with all his oratory and wit, became an outcast from society—a drunken, fallen man. And Savage and Burns and Byron—had they not neglected and scorned the plain precepts of temperance, morality would then have had less cause to disclaim the alliance of genius; nor would vice be so readily heard uttering the base maxim that stormy passions are the necessary accompaniments of lofty intellect.

The State has made abundant provision by statute law for the intellectual training of its youth. Why not, at least, equal concern for their physical culture and development—*mens sana in corpore sano?*

Lord Stanley declared that "sanitary studies belong to the patriot no less than to the philanthropist. Don't fancy," said he, "that the mischief done by disease spreading in the community is to be measured by the number of deaths which ensue—that is the least part of the result, as, in the battle, the killed bear but a small proportion to the wounded. It is not merely by the crowded hospitals, the frequent funerals, the destitution of families, or the increased pressure of the public burdens, that you may test the sufferings of a nation over which sickness has passed; the real and lasting injury lies in the deterioration of race, in the seeds of disease transmitted to future generations, in the degeneracy and decay which are never detected till the evil is irreparable."

Lord Beaconsfield also was an active patron of sanitary science, and uttered the sentiment that "the health of the people is the first care of statesmen." Indeed, its objects rank among the most important matters now discussed by the highest intellects and most humane hearts in every civilized country. No jurist questions the right and duty of government to make and enforce laws for the protection of the public health, to secure not only as long a life as nature can give, but likewise as healthy and happy a life as possible.

The State erects imposing and costly edifices for the detention and punishment of criminals, for the education and care of the blind and deaf, and for the treatment of the insane. To support such establishments, with all their necessary appointments, hundreds of thousands of dollars are annually paid out of the public treasury, and the burden of taxation for that purpose is constantly increasing. Why not enact statutes to diminish the factors which furnish such charges to the State?

The law is singularly inconsistent in its protection and punishments. If a man commit murder, he may either be hanged or sent to the State prison for life; but preventable diseases—scarlet fever, diphtheria, typhoid fever, small-pox, and other death-dealing agencies—may stealthily enter the household, kill the family, and be innocently regarded as an act of Divine Providence!

The poor pilferer in a dwelling-house at midnight may be in a state of starvation at the time he lays a trembling finger on something to eat in the larder, or on a silver waiter on the side-board, but, notwithstanding the pressure and desperation of hunger, if discovered in his trespass and theft, he is sent to prison and his family disgraced thereby; while the architect, the plumber, and, alike, the ignorant doctor, may enter in broad daylight—aye, even by call—and steal and destroy the life and health of the occupants.

The law makes common carriers responsible, regardless of accident, for damage done either to person or property; yet an American citizen may refuse the protection which vaccination affords against small-pox, carry that loathsome disease into a community, and start an epidemic.

If a pitfall be left in the street or public highway, and the citizen, his horse, or his ox, fall into it and is injured in any manner thereby, he may sue in a court of justice and recover from the town, city, or county, as the case may be, a sufficient sum of money to compensate for the damage sustained; but the same citizen may sicken and disable his own family, also the family of his neighbor, by accumulations of filth on his premises, and escape all legal responsibility.

Again, municipal ordinance says that, in order to avoid injury to persons and property, a locomotive engine and train of cars shall not exceed a speed of six miles an hour within the corporate limits; yet the same authority of law permits open cesspools, filthy streets and alleys, a contaminated water-supply to families, and the constant breeding of infectious and contagious diseases to kill the people.

And, again, to prevent litigation and strife among her citizens, the State has even gone so far as to prescribe the very words to be used in the purchase or transfer of property by "Richard Roe" or "John Doe." Why not the same particularity and care to prevent the rise and spread of sickness among the people?

Influenced by progressive minds in the medical profession, twenty-nine States have established State boards of health, and it is surely within the bounds of truth to affirm that thereby thousands of valuable lives have been saved, also hundreds of thousands of dollars to the wealth of the States.

The American Public Health Association, backed as it is by the influence and support of the whole medical profession of the United States, is recognized as the great central agency for the dissemination of sanitary knowledge among the masses. Through its systematic efforts and wise administration of voluntary powers, a large public sentiment has already been secured in favor of health legislation; and, accordingly, active steps have been taken by legislators in many of the States.

I charge you, my brethren, to concentrate your energies and influence. Speak out as one man in the name of the dearest interest of God's children who look to you—and not unavailingly—for succor in time of their distress. If the medical profession will but remain true to itself—true alike to science and humanity—the time is not far distant when its exalted influence will compel obedience of legislators to public sentiment, and cover every State with statute law for the protection of the public health. Moral suasion may do much to encourage respect for sanitary science, but it requires the strong arm of statute law, with its severe penalties for violation, to enforce obedience to its precepts.

The West Virginia statute provides that "the State Board of Health shall take cognizance of the interests of the life and health of the inhabitants of the State, and shall make, or cause to be made, sanitary investigations and inquiries respecting the causes of diseases and the means of prevention." How broad the charge! and how humane and God-like the service which defends men, women, and children from preventable diseases! This is precisely the service which a State board of health may afford—the education of the people respecting the economic and political importance of public health; to exterminate and prevent pestilential diseases, and thus largely contribute to the general welfare.

During the last decade there has been most gratifying activity in the cultivation and diffusion of sanitary knowledge; and it is an encouraging sign of the times that so much attention is now being given by legislators to the prevention of disease as a duty of the State. The proud lead of the great Northwest States in the cultivation of sanitary science has awakened a general interest in the subject in all parts of our common country. All praise, therefore, to the industrious leaders in sanitary work in Illinois, Michigan, Wisconsin, and Minnesota. Little West Virginia, nestled in the mountains, and looking into the near future for the coming time when her inexhaustible stores of native wealth shall be unlocked to hundreds of thousands of busy laborers, has proudly acknowledged allegiance to the goddess Hygeia, under whose health-inspiring banner she has already won substantial victories and benefits for the saving of her citizens. But, while flushed with the stimulus of her triumphs, she turns in sadness, and with outstretched arms and pleading voice, to her elder sisters, by whom she is immediately surrounded—Ohio, Pennsylvania, Maryland, and the dear old Mother State—and says to them: "How long, oh! how long shall the land which the Lord thy God giveth thee be the Paradise of Quacks?"

West Virginia is very proud of that feature of her State Board of Health law regulating the practice of medicine and surgery. Nothing, I am sure, could work more smoothly and consistently with the interest of the public health than its execution as a part of the duties of the board; and I commend the example of its success to those States that have not yet taken the advanced step to secure higher medical education. This provision of the law strikes at none but those wholly incompetent to assume and discharge the sacred trust of a physician. Neither does it attack any so-called school in medicine; and the law is most reasonable and just, both to the medical profession and the general public.

From time to time laws are passed to regulate the sale of intoxicating liquors and the dispensing of poisons; to suppress lotteries and gambling-houses; to prevent the carrying of concealed weapons; to restrain the sharper, the swindler, the robber, and the assassin. Why not, with like propriety, pass laws to restrain the ignorant, and the pretender in medical practice, who strikes at both life and purse, who can kill and then invoke the power of the courts to enforce payment for his murderous service? And is it not a ridiculous contradiction to say that a street nuisance which is prejudicial to the public health shall be abated by the power of law, and then with the next breath say that any man, without due qualification as a physician, may call himself doctor and kill his neighbor?

A lawyer, whose practice and mistakes can only affect the purse and property of his client, must undergo examination by learned judges before he can be admitted to the bar. To become a teacher in the common schools, one must pass an examination and receive a certificate of qualification before he or she can be employed. A pilot on a steamboat, before he can be admitted to the wheel, must learn every crook and bar in the channel—must know the stream so well that he can steer his craft, freighted with human life, as safely in the dark as in the light of day. But such is the inconsistency of law—such the commentary upon unlicensed personal liberty—that in many of the States any man calling himself doctor may swing his shingle, and, without the least restraint, prey upon the lives and property of his fellow-citizens.

The depreciated value of an American medical diploma is a reproach to the profession; and it is, therefore, high time that the conferring of degrees should be entirely divorced from the department of instruction in medical colleges. This opinion is fully warranted by my own experience as a medical examiner. Not long ago a young gentleman—a graduate of a medical college in "good standing"—came to me for registration, and, to my utter astonishment, he could not answer the question, "What is sanitary science?" Another graduate in medicine, when asked, "What is semeiology?" answered, "A description of the spermatozoa."

But the most shameful exhibit, involving the character of a medical college in good standing," that has come to my knowledge is shown in the following correspondence:

My Dear Sir: A friend writes me that you propose attending medical lectures. I write to present the claims of ———, the medical centre of the South and West—the healthiest large city in America—beyond the reach of yellow fever, etc.

Good boarding, costing elsewhere twenty to twenty-five dollars, can be had here for twelve to fifteen dollars per month. Owing to our ———, railroad fare is only half rate. No school has better facilities for medical teaching than the ——— Medical College. As I am allowed a certain number of beneficiaries from your State (West Virginia), I will take you as one and charge you only fifty dollars instead of eighty dollars. With this reduction, cheapness of board, and reduced railroad fare, you can attend one of the best schools for less money than an inferior one. Let me hear from you. Send names of other students. Yours truly,

* * *

This letter was a tablet copy—probably one of a hundred of the same kind sent out to catch the unwary. It came addressed (by mistake, of course) to a Wheeling physician who had already honorably finished his college course, and from him it came into my hands as a medical college curiosity! It is without date, but its caption is freely illustrated with the name and picture of the college, and contains the names of the faculty, trustees, and "demonstrators." In order to sound the depth to which "Demonstrator" ——— might be willing to descend in fishing for students, regardless of quality (?), a veritable medical student sent him the following letter of inquiry, with orthography and syntax specially set for the occasion:

Wheeling, W. Va., Aug. 18, '83.

Doct——

One of mi Friends who is trying to be a Doct has got a letter from you which says your College is one of the Best Colleges For Medical Teaching in America and that the Feas are cheaper than some other good Colleges and that sutes my circumstances for I am a very poor young man and no matter how much I may Know of Thery of Medicin I cant practice in W. Va. without a Deploma from a good College like the one you have in ——— you offerd to take mi friend for $50 dollars and you will do a poor young man a favor if you will take me at the same Rate for I have that much money I can pay you in cash as soon as I get there Mi Friend will Come with me and we can stay together at the same bording house the report is here that the yeller fever is in ——— but I am not affred of any disease for I have had the Small Pox very bad. Tell me what books I will have to studdy at your College and when me and my friend must come We come by ——— I have gone through with grays anatomy and the Electric dispensary and medwifery please tell me how long I will have to stay and when I can get my Deploma and if I have to pay extra for it.

In haste Yours Respectful

————*——

And here is the prompt reply that was sent to this Wheeling student, showing that the style of his English composition was no bar to admission at——— Medical College:

———, August 20, 1883.

Mr. ———

My Dear Sir: Your favor of the 18th to hand. I have one more special beneficiary to allow; so I will take you on the same terms as I offered your friend. Am anxious that your State should have a better representation in ——— than it has had in the past. The other information you ask is contained in the catalogue I mail herewith. If you begin your medical course this fall, you can graduate Feb., 1885. That is as soon as any respectable school can graduate you, unless you have already taken a course. There is no place where you can learn more medicine for the amount of money than in ———. I came here in '77 with a very light pocketbook to study medicine, and, contrary to my expectations, I had a little left after graduating, and was given no beneficiary privilege either.

The cushioned seats for our new amphitheatre have arrived from the factory. They are all numbered, so that students on matriculation reserve their seats for the ensuing session, those matriculating first having choice. If you desire a seat near the front, you had better remit me the matriculation fee ($5), leaving the balance of $45, and I will matriculate you, select the best seat possible, and mail you your matriculation ticket and number of seat, so when you arrive you will not be crowded back so far that you will be unable to see well the demonstrations and experiments.

Hoping to hear from you in a few days, I am, Yours truly,

* * *

This exhibit shows the proposition of medical college work to base purposes at "the medical centre of the South and West." I have made the blanks to hide the identity of the actors in the comedy, because this college has accepted my friend Rauch's "Minimum Requirements" for a medical college to be held in "good standing;" and, no doubt, its faculty are ready to swear by the West Virginia schedule of requirements also! So much for mere promises of reform and a higher standard!

Finally, in exerting my efforts in advocacy of the cause of sanitary progress, I should commit a serious blunder if I neglected to bespeak the assistance and co-operation of the ladies. Woman gave Massachusetts the first State Board of Health in the United States, and from that beginning—in 1869—twenty-eight States have followed the example. There is yet much work for her to do, and none can do it so well as she; and no cause possesses a stronger claim upon her sympathies and affections. As science advances, she gradually acquires her true position in the scale of social life. Of the world's inhabitants, 750,000,000 universally hold woman in a state of bondage and degradation; 250,000,000 alone allow her to approach her proper sphere by acknowledging the marriage contract, paying deference to her influence, and promoting her intellectual culture. How much had the mind of man to be cultivated before it could give expression to that sweet sentiment of Campbell?

"And say, without our hopes, without our fears,
Without the home which plighted love endears,
Without the smile from partial beauty won,
Oh! what were man? a world without a sun."

ARTICLE III.—TREATMENT OF INTERMITTENT FEVERS BY ELECTRICITY. By Drs. BAIRD AND POWELL, Albany, Texas.

I see in the August number of this JOURNAL that Professor De Rinzi has directed this plan of treatment for intermittents in the *Medical Clinic*, of Genoa. He says that in the majority of cases intermittent fever can be cut short more promptly than by quinine, and gives his mode of application.

The London *Medical Record*, in giving space to this valuable article, asks the following questions:

"Why is a rapid and complete cure sometimes obtained while sometimes it is incomplete?"

"What is the best method of applying electricity?"

"When ought it to be preferred to the preparations of cinchona?"

In the first place Professor De Rinzi's method of applying, as above referred to, is incomplete within itself. It may have a very satisfactory effect on some, and on others but little.

If the constant current be used and the rheophores, as he says, "be placed over the two extremities of the medulla," there is only that particular part brought under the circuit, and hence some very important organs are brought but slightly under its influence. Again, in using the Faradic current, he says: "The patient held a rheophore in each hand," and we regard this as an incomplete process.

In attempting to answer the second question, the first will be more fully explained.

We use the Galvano-Faradic current, applying the cathode over the liver and treat down the entire spinal column, beginning about the seventh cervical vertebra. By this means the sympathetic system is brought under its influence, and the liver is stimulated to a more healthy action, and the nervous depression incident to the paroxysms is overcome.

If the spleen is enlarged the anode is applied to that organ, the cathode remaining on the liver, and the notorious "ague cake" is reduced. This method comprises what might be termed a special application.

The treatment may thus be directed from the abdominal organs down to the soles of the feet. We then apply the anode to the Gasserian ganglion, and the cathode immediately over the stomach and bowels, thereby promoting digestion, absorption and assimilation.

To the third question we would say, that it depends a good deal on circumstances as to the use of cinchona, for it is sometimes necessary to employ both, but we regard electricity alone indispensable in treating not only this trouble, but a great many others that will be reported at some future time.

Dr. W. T. Baird (my partner) has employed this potent agent more or less for fifteen years past, and he says he has not failed in but two or three instances to cure the above malady, and he thinks they were due probably to some idiosyncrasy, or he may possibly have used it too strong, some being far more susceptible to it than others.

We have treated every case of the kind that came under our care for the last twelve months, and they all resulted in complete cures and remained permanently so, no medicine being given except mild saline purgatives to keep the bowels well opened.

It is gratifying to see that this subject is receiving such wide-spread attention, and I hope that if this article is not committed to the waste-basket it may induce others to inquire more closely into its merits.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

Classification of the "Porro (?) Operations." What is a True Porro-Cæsarean Operation, and what other Forms of Uterine Ablation in Pregnant Women have been erroneously called "Porro," and should be separately classified.

Dr. Robert P. Harris, of Philadelphia, states in *The American Journal of the Medical Sciences* for October, 1883, that, from a careful examination of the literature of this subject, he finds that we have no less than nine forms of operation, some of them differing very materially from the original, all called by the name of "Porro," and classified together, although having very different rates of mortality. It is hardly necessary to claim that this is very unjust to the originator, and unfair to his operation. If the Porro method is to stand upon its merits, rated by its proportion of cures, we must in justice exclude from the record all the cases not strictly deserving of the title. As it would only complicate matters to make nine orders of cases, Dr. Harris proposes to combine them where this can be fairly done, and thus reduce the list to four classes.

1. True Porro operations. Porro-Muller operations.
2. Puerperal utero-ovarian amputations, with the pedicle dropped in.
3. Premature ablations of the gravid uterus, the fœtus not being viable.
4. Prévôt's operation, misscalled "Porro." (Utero-ovarian amputation after laparotomy for rupture of the uterus.)

Dr. Harris appends a tabular record of 140 cases, from which it appears that the Porro operations, carried out as originally designed, has saved 46 14-41 per cent. of the cases; the Porro-Müller method, unmodified, has saved 52 16·17 per cent.; and the combined, 48 8-29 per cent. of the women, and 90 out of 118 children.

Ligation of the Subclavian Artery between the Scaleni for Hæmorrhage from a Gunshot Wound. Recovery.

Dr. Middleton Michel, M.D., of Charleston, S. C., reports, in *The American Journal of the Medical Sciences* for October, 1883 an interesting case, exhibiting an exceedingly rare cause of hæmorrhage from gunshot wounds, which is scarcely referred to by systematic writers on surgery; as when an artery in the vicinage of a shot-wound loses its vitality at the time of the injury, through shock, and subsequently, more completely through prolonged contact with morbid products in the contused, and lacerated wound, shares in the general disintegration of the surrounding structures, and yields, in the course of time, to blood-pressure giving rise to the rarest form of hæmorrhage, which, from its suddenness, is most alarming.

The management of wounds liable to involve the great vessels at the upper part of the chest is, perhaps, the most important field of study for those who occupy themselves with questions of what the French term *la haute chirurgie.* It is quite time that the dictum of Jourdan, that surgery is powerless in lesions of arteries within the cranial, thoracic, and abdominal cavities should be expunged from the text-books. At least five cases occurred during the late war, of wounds of the subclavian, in which surgical intervention was justifiable, and in one, the case just reported, the left subclavian was successfully tied by Dr. Michel, for a wound of the vessel where it passes across the rib. Though such lesions are immediately mortal in the majority of cases, there are instances in which the bleeding is delayed or arrested, the laceration of the artery being obstructed by spiculæ of bone, or by the missile, or a fragment of clothing, or other foreign substances. In such cases, audacity is the part of prudence.

GALVANO-PUNCTURE FOR THE CURE OF ANEURISM.

This operation deserves more recognition that it has obtained. Hence, a case of subclavian aneurism so treated and reported by Dr. T. R. Chambers, of East Orange, N. J., in the October, 1883, number of *The American Journal of the Medical Sciences*, will be read with interest. The case lived four months and a-half after the operation, and during three months of this time was in comparative comfort, many of the distressing symptoms disappearing.

CLOSURE OF THE JAWS AND ITS TREATMENT, WITH THE REPORT OF A CASE IN WHICH COMPLETE OCCLUSION FOLLOWED A GUNSHOT WOUND OF THE LEFT SUPERIOR MAXILLA, RECEIVED AT TWO AND A HALF YEARS OF AGE, AND WHICH WAS RELIEVED EIGHTEEN YEARS SUBSEQUENTLY BY OPERATION ACCORDING TO A NEW METHOD.

Dr. J. Ewing Mears, of Philadelphia, in an able paper in *The American Journal of the Medical Sciences* for October, 1883, discusses the various operations which have been suggested for the relief and cure of permanent closure of the jaws, and the objections urged against them. He then narrates a case in which he operated in the following manner: By division of the ramus of the jaw, about its middle, exsection of the condyle and division of the insertion of the temporal muscle, thus releasing the coronoid process and effecting its removal with the condyle —division of the masseter muscle at its points of origin—non-interference with the cicatricial band. By this plan he hoped to secure sufficient space for free movement of the remaining portion of the ramus, and he proposed to utilize the cicatricial band as a *quasi* ligament, and obtain movement of the bone between this band and the internal pterygoid muscle. By division of the masseter at its point of origin, he proposed to relieve the tension of this muscle and more effectually prevent union of the divided fibres.

The plan of operation suggested and practised is novel, in the fact that it includes removal of both coronoid and condyloid processes with the upper half of the ramus, as well as division of the masseter, external pterygoid, and temporal muscles, at the point of origin of the former, and the insertion of the latter. The advantages claimed over other methods are:

1. Its application to all forms of permanent closure, that due temporo-maxillary anchylosis, as well as to cicatricial formations.
2. The utilization of the entire body of the jaw in opening the mouth, not only affording in this way greater advantage in mastication and articulation, but serving to prevent deformity.
3. The formation of a more perfect artificial joint in the removal of both processes, thus overcoming the resistance of the more or less fixed

upper segment, when the joint is made either in the body or the ramus of the bone.

REPORT OF A CASE OF ABSCESS OF THE LEFT ILIAC FOSSA.

Previous to the publication by Grisolle, in 1839, of his monograph on "*Les tumeurs phlegmoneuses des fosses iliaques*," the various inflammations liable to give rise to collections of pus in the pelvis were much confounded. In the October, 1883, number of *The American Journal of the Medical Sciences*, Dr. Louis W. Atlee, of Philadelphia, reports a case which shows throughout its whole course the distinguishing and characteristic features of a phlegmon of the iliac fossa, together with some very rarely observed consequences. In some remarks appended to the case Dr. Atlee fully and clearly defines the diagnostic points between phlegmons of the iliac fossa and other inflammatory affections in that region.

CLINICAL OBSERVATIONS UPON OTORRHŒA (CHRONIC PURULENT OTITIS MEDIA) WITH PERFORATIONS OF THE MEBRANA TYMPANI.

Dr. Read J. McKay, of Wilmington, Del., having treated during the past eleven years 230 cases of otorrhœa, or, more technically, chronic otitis media with purulent discharge, presents for consideration in *The American Journal of the Medical Sciences* for October, 1883, some clinical observations upon such cases with old perforations of the membrana tympani, and endeavors to show that they are not the unsatisfactory and irremediable class of aural diseases which they have been regarded, and perhaps still are by many general practitioners, as well as by the public generally. And, because of the well-known dangers from caries and necrosis of the temporal bones, meningitis, cerebral abscess, and purulent infection, which sooner or later may, and often do ensue, when they are disregarded or neglected, they should not in the future, as in the past, be permitted by physicians to pass from under their observation without any, or carelessly directed local and medical treatment.

His earlier cases were treated by various caustic applications, and they required usually several months' treatment to relieve or cure them. The later ones were treated with finely powdered boracic acid (the dry method), packed in the ears, usually filling the meati the first few visits, which generally checked the purulent discharge in a few days, and only required several weeks (usually about four) to relieve or cure them.

A MODIFIED PORRO-CÆSAREAN OPERATION: THE PEDICLE DROPPED IN.

Dr. Paul Grossmann, of Omaha, Neb., reports in *The American Journal of the Medical Sciences* for October, 1883, an unsuccessful case of this operation in a rachitic dwarf, aged 23 years, who had been in labour sixty-six hours. He feels confident that the operation would have been successful if it had been performed at the beginning of labor.

EXPERIMENTS IN THE USE OF NAPHTOL FOR THE TREATMENT OF SKIN DISEASES.

Dr. Arthur Van Harlingen, of Philadelphia, reports in *The American*

Journal of the Medical Sciences for October, 1883, the results of his experience with the use of this drug which was first brought to the notice of the profession by Professor Kaposi, of Vienna, about two years ago.

He finds it is one of the most efficient and agreeable remedies for scabies which has yet been brought forward. Both in the rapidity of its action and in its beneficial effects upon the inflamed skin it is superior to any of the means ordinarily employed for the cure of this disease. Its exact place in dermatic therapeutics remains to be ascertained, but he is inclined to think that it will not prove an unimportant one.

In eczema it has failed in his hands to give the same beneficial results as were obtained by Kaposi. In most cases of vesicular and in acute eczema generally its action is simply that of an irritant. On the other hand, it has a limited field of action in the cure of a certain number of cases of squamous eczema of the scalp.

In his opinion it is a valuable addition to our external means of treatment in psoriasis. Kaposi speaks well of it in psoriasis of the scalp in particular, and his experience will lead him to place it near chrysarobin and pyrogallic acid in effectiveness without the neutralizing disadvantages of either of these drugs.

In seborrhœa of the scalp naphtol is a decided addition to our means of treatment. While inferior in some respects to sulphur or carbolic acid, it has a certain range of usefulness which further experience will in all probability more exactly demonstrate.

Naphtol is highly lauded by Kaposi in the treatment of hyperidrosis, but in Dr. Van Harlingen's hands it has failed entirely, although used strictly according to his formulæ. He considers it quite valueless in this disease, so far as his experience goes.

His experience leads him to regard its effects in ringworm as inferior to almost all of the remedies at present used, and as almost entirely inefficient in most cases of tinea versicolor.

In pediculosis he has had no experience, but in a single case of pediculosis capitis its action was favorable.

PERIOSTITIS OF THE MASTOID; NECROSIS; RECOVERY.

Dr. Wm. S. Cheesman, of Auburn, New York, reports in *The American Journal of the Medical Sciences* for October, 1883, an interesting case of this in which the bone was trephined, and the patent made a good recovery.

THE MOVEMENTS OF THE UTERUS. BY FROMMEL (*Zeitsch. f. Geb. u. Gyn.*, VIII., 2).

Experiments upon animals made as long ago as Harvey's time showed that it is the contractile force of the uterus, as a muscular organ, which expels the child. This observation has been verified upon the human subject in the labors of paralyzed women, also in some well-authenticated cases where the fœtus has been born after the mothers' death. Kehrer was the first to turn his attention to the peculiar movements of the genital canal at the time of parturition, his observations being published in 1863. He differentiated between progressive contractions, stationary stricture, and tetanus. As the result of experiments, he concluded that the amount of pressure in the vascular system, and not the quality of the contents of the vessels, determines the muscular movements; also that the centres of rythmical contraction in the genital organs are in the brain and spinal cord, the influences being propagated through the posterior sacral rami of the hypogastric plexus. In 1864, Frankenhäuser announced that he found the centres for the contraction of the uterus in the cerebellum and medulla, the influences being conveyed through the sympathetic system; the sacral nerves of communication, he believed, were a means for checking uterine contractions. He maintained this view in a work published in 1867, with the addition that there were ovarian nerves external to the uterine plexus, which have motor tracts leading to the uterus. Spiegelberg, while accepting Kehrer's conclusions, in so far as they concerned the manner of the rythmical contractions of the uterus, was of the opinion that the uterus did not require stimulus from a nerve-centre for its activity, but was like other similar organs which are excited to physiological activity by means of stimuli which the nerves receive in the walls themselves of those organs. These views of Spiegelberg have recently been confirmed by Rein, at least in so far as the cerebro-spinal system is concerned, for having divided, in animals, all connection of the uterus with that system, contractions still took place, such as are customary in conception, pregnancy and labor. The author made a long series of experiments (sixty-two) for testing the contractile power of the uterus, upon dogs of all ages, pregnant and non-pregnant, having divided, as did Rein, all connection with the cerebro-spinal system. The following conclusions were reached: 1. The uterus is capable of spontaneous rhythmical contractions. 2. In all degrees of its development the uterus is capable of rhythmical contractions, which are more regular in animals which are pregnant or have borne offspring than in those which are yet immature. 3. Marked lowering of the body-temperature slows the contractions, but does not diminish their energy; elevation of temperature, however, at first hastens, and then (if the fever be high) stops them. 4. The normal functional capacity of the uterus is closely dependent upon a normal temperature of the body. Elevation of temperature has an especially disturbing influence upon it. 5. Disturbances in the circulation of the blood have a very significant influence upon the movements of the uterus; compression of the aorta will completely arrest them after a brief period; compression of the vena cava will have the same effect after a somewhat longer period. 6. The contractions of the uterus are not dependent upon any centre outside of itself.

THE DURATION OF PREGNANCY. BY J. VEIT (*Zeitsch. f. Geb. u. Gyn.*, VIII., 2).

Two hundred and eighty days have been commonly accepted as the average duration of pregnancy, by which term is intended the interval between the last menstruation and the delivery of the fœtus. It is desirable to be able to fix upon the day when pregnancy is established, and in order to do this it is necessary to know whether the fertilized egg is a product of the last menstrual period, or of the first period which is omitted. Many statistical tables are cited, giving the average duration of pregnancy observed in different countries, and by different men. As these tables vary by as many as thirty days above and below the commonly accepted two hundred and eighty days, they are not of much value. The author thinks that the explanation for the variable period of time which intervenes between the first day of the last menstruation and the birth of the fœtus is to be found in the causes by which labor is established. Three questions naturally arise in studying the subject of the duration of pregnancy: 1. What is the relation of ovulation to menstruation, as to time? 2. How long will the spermatozoa retain vital activity? 3. Does ovulation occur only with menstruation? The last two questions are considered to have been answered in the statement that there can hardly be a doubt but that the spermatozoa will remain active from the end of one menstruation until the beginning of the next; likewise, that the labors of Bischoff have shown that ovulation usually follows menstruation. Before the establishment of the last observed menstruation, seminal fluid may be present in the genital canal which will be the fertilizing element for the ovum which appears with menstruation. A second possible means of impregnation lies in the fact that the ovum may have been deposited upon the uterine mucous membrane at the time of menstruation, and have been fertilized after a subsequent coitus. A third possibility is that the ovum may appear before or at the beginning of menstruation, be fertilized at that time, whereupon menstruation will stop, and decidua begin to form. Which of these three theories is the correct one the author is unable to say. The conclusion, on his part, is that we are not, at present, able to say whether impregnation occurs at the time of the last menstruation or at the time of the first one which is omitted. [We therefore remain in the same uncertainty with which we started, and must continue to estimate the duration of pregnancy only approximately.]

ORIGINAL ABSTRACTS.

ALETRIS FARINOSA AS A UTERINE TONIC.—D. P. Duncan, M.D., Waynesboro, Ga. (*Therapeutic Gazette*, August, 1883), states that aletris farinosa stands unrivaled as a uterine tonic. He has used it in irregular, painful, suppressed and excessive menstruation, and has yet to see one single failure. When the womb has aborted for years successively, its continuous use has carried cases through the full period of gestation. In two or three cases, where from some irregularity the woman had failed to conceive in periods from 5 to 15 years, its use has enabled each case to conceive and give birth to hale, hearty children.

DONKEY'S MILK AS A CHILD'S FOOD.—Some remarkable results, according to Dr. Parrot, have been obtained at the Hôpital des Enfants-Assistés, of Paris, in feeding delicate infants with asses' milk. Many of the infants brought to that hospital have diseases which forbid their being suckled by nurses, and for these the bottle was resorted to. In spite, however, of all possible care, the endeavor to foster such small vital force as these children possessed proved of little avail, and direct application to the udder of an animal presented the best recourse. At first the infants were thus fed with goats' milk, but it was soon found that asses' milk was greatly preferable, and they are all now fed with that —one, two, sometimes even three infants being held to the creature's udders at once, the nurses doing this with great ease, and the good results of the treatment being evident from the figures given. Thus, during six months, eighty-six infants having congenital and contagious diseases were treated in the hospital nursery. Of the first six, fed with cows' milk in feeding-bottles, only one was secured ; of forty-two fed at the goat's udder, eight were cured, while thirty-four died ; of thirty-eight fed at the ass's udder, twenty-eight have been cured, while six have died.

Sodium Nitrite in Epilepsy.—Guided by a fancied analogy between amyl nitrite and sodium nitrite, Dr. W. T. Law (*Practitioner*, June, 1882) has been led to try the latter drug in epilepsy. He gave it in twenty grain doses three times a day in a case which had proven very intractable to all other treatment The effect produced has been very remarkable. A peculiar odor is said to be produced.

Sparteine is an oily liquid alkaloid drawn from Cystisus scoparius, which has a marked diuretic action. Fronmuller uses the following hypodermically: Sparteine sulphate, fifteen grains ; water, one and a-half ounces. Twenty minims of this has a prompt (*Progrès Médical*, June 23, 1883) diuretic action.

Creosote in Chronic Catarrh.—Hager (*The Analyst*) states that creosote, given to consumptives and sufferers from chronic catarrh, increases the general nutrition of the patient. Its anti-asthmatic action is also well marked. The dose should be as small as possible, but often repeated. The proper doses for an adult are two to four centigrammes two or three times daily. The maximum single dose is five centigrammes (three-fourths grain), and the maximum for the day two decigrammes. The pilulæ kreasotatæ contain 00.167 grammes (one-fourth grain) in each pill. Consumptives in the last stage may take two or three of these pills two or three times a day, according to bodily size, and, if they feel tolerably well after some days' use, they should take two or three pills uninterruptedly night and morning, dropping them, perhaps, one or two days a week. The pilular mass is made by melting together two parts of yellow wax and one of creosote, to which other suitable ingredients are added in form of powder, as quinine, salts, salicylic acid, gentian root, etc. Any addition of ether or spirits of wine, to give consistency to the mass, should be avoided, and is not necessary.

Santonin for Worms.—Lewin (*Pharmaceutishe Central Ha* states that to give santonin its full efficacy it should be administered in an oily solution. Three grains of santonin dissolved in two ounces of oil can be given in four doses. It is of advantage to add to this four drops of the oil of American wormseed. For the oily menstruum any oil can be used.

Fluid Extract of Wild Cherry.—J. W. Landis (*Druggist*) gives the following formula for a "beautiful wild cherry fluid extract which keeps well and does not precipitate." Take of

Wild cherry bark..............500 grammes.
Water (temp. 100 F.)............
Alcohol (95 per cent.)............
Glycerin—of each a sufficient quantity.

Mix 200 c.c. of the water (temp. 100 F.) with 50 c.c. of glycerin. Moisten the powder with this. Pack this powder moderately in a closely-covered vessel and allow to macerate for 96 hours. Repack firmly in two percolators and pour on one mixture of alcohol (95 per cent.) 360 c.c.; glycerin and water, each 250 c.c. Set aside the first 250 c.c. When the mixture has all passed from the surface continue to percolate with water until 600 c.c. more are obtained; pour this upon the second percolator, and when 190 c.c. have passed, mix with the reserved 250 c.c. Put in well-stoppered bottle and protect from light. Continue the percolation of percolator No. 2 until 400 c.c. more are obtained, which preserve for making next lot of extract. Then the 400 c c. is to be poured on percolator No. 1, first followed by 460 c.c. more of the alcohol, water and glycerin mixture, and from each 250 grammes of the powder 250 c.c. of extract are obtained, but the percolation of No. 2 is to be continued at each operation until 400 c.c. are obtained and set aside for next operation.

Hypothetical Question in Medico-Legal Cases.—Judge Lake, of the Nebraska Supreme Court (*Northwestern Reporter*), has recently decided that: 1. If hypothetical questions are resorted to in the examination of expert witnesses, they must be so framed as to fairly reflect facts either admitted or proved by other witnesses. 2. Although a non-expert witness is incompetent to give his opinion as to the existence of a dislocation of a limb, he may describe its appearance, as he saw it, to the jury. 3. Where no special agreement is made with a physician or surgeon respecting his services, the law implies an undertaking on his part simply that he will exercise a reasonable degree of care and skill in the treatment of his patient, not that he will effect a perfect cure. 4. The giving of an instruction to a jury, uncalled for by the evidence, if not prejudicial, is not a sufficient reason for setting their verdict aside.

Syphilis and Paretic Dementia.—Dr. J. G. Kiernan (*Alienist and Neurologist*, July, 1883) and Dr. C. Lange (*Hopital Médicale*, May 19, 1883) come to the conclusion that while syphilis does produce progessive paresis (paretic dementia), its influence has been much exaggerated, and that the disease so produced does not differ from ordinary paretic dementia even as to curability.

Uterine Irritation and Uterine Movement.—Runge (*Centralbl. f. Gynäk*, May 26, 1883) has made a series of experiments to test the efficiency of cold as a uterine irritant. Very young pups were selected, The abdominal cavity was carefully opened. The uterus presented a pale-red appearance. Water at 37° F. was then poured into the cavity. covering the uterus, which suddenly became rigid, and of a slightly deeper color. This condition lasted a minute, after which the organ returned to its former state, but manifested a few weak contractions. More water being added, so as to keep the uterus in a medium with a temperature of 37° F., the condition of contraction of that organ continued for from ten to fifteen minutes; the color became a deeper red, the vessels dilated and filled with blood, while the muscular tissue became very pale. After half an hour the muscular tissue became redder and more relaxed, and the uterus returned to its normal condition. Further irritation being applied, of a mechanical, electrical, or thermal nature, marked uterine contractions followed, showing that the irritability of the organ had not been exhausted by the action of the cold. Identical results followed the application of cold to the rectum. If the experiment was repeated at a temperature of 106° F. during a period of ten minutes, the uterus gradually became flaccid, and reddish-blue in color.

Cold or electricity being then applied, the uterus showed no irritability. Even strychnine applied at this high temperature caused no contractions, or none of any force. The action of cold in these experiments, therefore, was to produce a long-continued and firm uterine contraction, with no intercurrent stage of paralysis; this stage was reached only when the temperature exceeded 96° F. This would seem to prove that cold is more effectual as a hæmostatic than heat. In obstetric practice, while cold water would undoubtedly stop the hæmorrhage in a patient anæmic to the verge of collapse, it would precipitate the latter condition. Hence hot water is almost universally preferred in the exhausting hæmorrhages of parturition. Dr. Runge suggests that as a very useful precaution against pain and accident, in the use of hot water, the entrance to the vagina and the vulva be well smeared with carbolized oil. In gynecology, hot-water injections are certainly more grateful to the patient, and their power of producing absorption is far greater than that of the cold. Hence, whether cold or hot water is to be employed depends upon the exigencies of the case. Both act as uterine irritants, and will produce contractions.

TUBERCULOSIS OF THE FALLOPIAN TUBES.—Dr. J. L. Steven (*Glasgow Medical Journal*, January, 1883), concludes that: Fallopian tube tuberculosis may arise from infective material drawn into them from the peritoneum, and that tuberculosis of the internal female genitalia may be primary and remain most severe in them.

POTASSIUM IODIDE IN DERMATOSIS.—Dr. Greve (*Nordisk Med. Arch.*, xiv., No. 1, 1882) recommends large doses of potassium of iodide in skin diseases, especially psoriasis. He begins with a mixture of potassium iodide, 10 to 300 water, of which he gives a tablespoonful three or four times a day. Every time the prescription is renewed five grammes are added. He always increases the strength to 30 iodide to 300 water, and has, without inconvenience, given as high as 40 to 300. As soon as one gramme is reached, an effect is produced on the skin lesion. If the dose is limited to one gramme, or one and a half, the improvement is gradual, but if the amount is increased to 2 or 2.50 grammes, the improvement is rather rapid. The less affected parts of the face are first cured.

RESORCIN.—Dr. Jas. G. Kiernan (*Druggist*) says: This diatomic phenol, which has the formula $C_6 H_4 (HO)_2$, is assuming of late considerable prominence in European therapeutics. A he American medical profession is very apt to follow European therapeutic fashions, it is probable that before long resorcin will be as extensively used in the United States as it is elsewhere. The numerous editorials in the prominent American medical journals, dealing with it from various laudatory standpoints, show that European researches with this drug are to be extensively followed. It was first obtained in 1864 from galbanum resin by Hlasiwetz and Barth, who fused the resin with potassa. It was later obtained from sagopenum, assafœtida, ammoniac and gum acarroides. Kopp is of the opinion that it is most cheaply obtained by the destructive distillation of Brazilia. The United States Dispensatory (1882) states that it is best prepared by fusing potassium benzoldisulphonate with caustic potassa. It is isomeric with pyrocatechin and hydroquinone. Its crystals are of the rhombic system, melting at 219.2°F. and distilling at 512.6°F. It is easily soluble in water, alcohol and ether, insoluble in chloroform and carbon disulphide. It has been found to have marked antipyretic and antiseptic properties. Dr. C. Paul found that one part to a thousand disinfected the stools of typhoid fever patients much better than the disinfectant usually employed. It has no odor, so the disinfection was not deodorization only. Lichtheim, of Berne, found that in two to three gramme (30 to 45 grains) doses, it was prompter, more certain and efficient than quinine, although its effects were of shorter duration. Brieger has had similar experience, but had more failures with it. Dujardin-Beaumetz found it of great value in diphtheria, in ulceration of the mouth and in catarrh of the stomach. He also used it as a substitute for carbolic acid in surgery. Tottenhoffer found that one and a half grains of resorcin given to children suffering from cholera infantum, diminished vomiting and diarrhœa, and restored the function of the stomach. He usually gave it in some bitter menstruum. Cohn has had similar results. Fissiaux and Leblond have found it of great value in the local treatment of chancroid. Bassi has used it with good results in intermittents. Skibnevsky has found that hypodermic injections of it are of value in erysipelas. Its chief disadvantages are that it is much more liable than quinine to produce head symptoms. In this respect it resembles salicylic acid. This tendency can be obviated by the simultaneous use of ergot or hydrobromic acid. That resorcin will retain a permanent place in therapeutics there can be but little doubt. It is less dangerous than carbolic acid and, Platt's unique results to the contrary notwithstanding, much better adapted to antiseptic use. Its cheapness and efficiency seem to render it a valuable substitute or alternate for quinine, with which it can be combined to advantage. The urine of patients who have taken resorcin darkens when exposed to the air, but this color disappears after twenty-four hours. The head symptoms, to which allusion has been made, leave no after effects.

ORIGINAL TRANSLATIONS.

CONTRIBUTION OF THE STUDY OF THE ACTION OF METHODICAL REFRIGERATION UPON VISCERAL CONGESTIONS.

Communication to the Société Médicale des Hôpitaux, April 13th, 1883, by M. DUMONTPALLIER. Translated from *L'Union Médicale,* August 5th, 1883, by H. McS. GAMBLE, M.D., Moorefield, W. Va.

In the communication I made to the Hospital Medical Society, at the session of the 9th of March last, upon the subject of refrigeration of the human body in hyperthermic diseases, and especially in typhoid fever, I formulated two propositions which were the occasion of a discussion, in which M. Dujardin-Beaumetz took the largest part.

These two propositions were thus expressed :

(*a*) Experimentation upon man and upon animals establishes the fact that *slow and progressive* cooling does not determine visceral congestions.

(*b*) Experimentation demonstrates, moreover, contrary to the general opinion, that pulmonary and renal congestions in diseases are favorably modified by *methodical refrigeration.*

In the course of the discussion, our honored colleague, M. Bucquoy, remarked, basing his conclusions upon observations made during his service, that pulmonary congestion in typhoid fever might be very happily modified by baths cooled down to 26° centigrade, and that clinical experience demonstrated that refrigeration, attentively applied, might have the result of relieving the congestion of the viscera in the ataxic and adynamic forms of typhoid fever.

But M. Dujardin-Beaumetz, according to refrigeration and etiologic influence in congestive diseases, particularly in nephritis and in pulmonary congestion, asked me to make known in detail the facts and experiments upon which I based an opinion, absolutely opposite to the views generally admitted upon this important question of visceral congestions.

I replied immediately, citing the experiments which Mr. Laffont, Professor of Physiology in the School of Medicine, at Lille, had performed upon animals in 1880, at La Sorbonne, in the laboratory of Prof. Paul Bert, and the experiments which I had made myself during the same year in my service at la Pitié, upon a well man. From these experiments upon man and upon animals it resulted that refrigeration, *slow and progressive,* does not determine visceral congestions.

Then recalling different passages of the lecture of Prof. Boudet, of Lyon, before the Academy of Medicine, and two experimental observations collected during my service, upon patients affected with pulmonary congestion, with fine mucous râles and renal congestion with albuminuria, I maintained my conclusions upon the favorable action of slow and progressive reduction of the temperature in the visceral congestions of typhoid fever.

However, as these citations, these affirmations on my part, were in opposition to what is generally admitted, I made an engagement to bring before this meeting to-day the notes and the tracings which will permit all to see that the propositions which I had formulated were established upon observations of an experimental order.

I lay before the eyes of the members of our society all the elements which will enable you to judge how well-founded are my affirmations.

1. In animals and in the well man *slow and progressive* refrigeration does not determine visceral congestions.

In support of this first proposition I place before the eyes of the society a copy of the register of the experiments of Prof. Laffont, in which are set forth the results of slow refrigeration, the animals being plunged for an hour and a quarter into water at 14° centigrade. From the account of these experiments, and from the information which they have furnished me, it appears that at the beginning of the experiment there was agitation, increase of the number of respiratory movements, of the pulsations of the heart, and slight elevation of the temperature in the rectum; after a quarter of an hour the temperature fell from 38° to 35°, the pulse came down from 115 to 105, and the number of respirations from 17 to 14. Then progressively, every fifteen minutes, the temperature, the number of respirations, and of the pulsations of the heart continued to diminish regularly, so that, an hour and a quarter after the beginning of the experiment, the rectal temperature had fallen to 22½, the pulse to 55, and the respiration to 5 inspirations a minute. The animals being sacrificed at this stage of the experiment it was observed that there existed neither congestions nor visceral hæmorrhages.

Moreover, in a communication made to the Society of Biology, February 17th, 1883, Dr. François Franck mentions the fact that he has not observed in animals, at the beginning of the external application of cold, that *rise* of the internal temperature which there is often a fear of provoking in man, by reason of ideas perhaps a little theoretical.

I am then authorized to say that *in animals* experimentation has demonstrated that *slow and progressive reduction of the temperature does not produce visceral* *congestions*, this being proved by the direct examination of the viscera immediately after the experiment.

Already my experiments upon man in a state of health had permitted me to draw the same conclusions, as appears from my communication to the Academy of Medicine in March, 1880, in which it is said: "It remains to us to establish the fact that methodical refrigeration of the human body is without danger. In fact, in all our experiments upon man in a state of health, and even when the fall of the temperature has been 2·8° in the axilla and 1·9° in the rectum, we have observed no accident. Sometimes the subject, after the experiment, was obliged to go to stool, or urinated quite abundantly 200 to 250 grammes of light-colored urine. Twice nitric acid has determined a zone of indigosene in the lower part of the test glass, but never has nitric acid or heat given an albuminous precipitate. It is then reasonable that there was not during the experiment any pronounced congestion of the kidneys. Besides, there never was any pain felt in the region of these organs. Likewise, the absence of râles in the chest, and the persistence of the normal rhythm of respiration admitted of the conclusion that progressive and slow refrigeration does not determine pulmonary congestion."

In the typhoid or variolous patients whom I have enveloped with the refrigerant medium, I have sometimes noticed a little cough, without special expectoration, and never have I observed any signs of persistent pulmonary congestion, never any hæmoptysis. Sometimes the typhoid patients had liquid stool, not very abundant, during an experiment which lasted several hours; never any colic, never any abdominal pains, never any vomiting or desire to vomit. I have not noticed any tendency to sleep or any sign of cerebral or ocular congestion, or ringing in the ears, or any trouble of sensibility or mobility. The typhoid patient who remains subjected to the intermittent action of the apparatus for twenty-four hours had no more actions upon the bowels than usual, and he slept a calm sleep several hours of the night and without dreams. When he complained of cold, the cocks of the apparatus were closed, and the complaints ceased almost immediately.

Do not the facts which I have just recalled prove that I had a foundation upon which to formulate my first proposition? It now remains to me to establish the fact that my clinical experience and observation lent a no less well-grounded support to the second proposition thus formulated: "Experiments upon man demonstrate, contrary to common opinion, that the pulmonary and renal congestions in typhoid fever are favorably modified by methodical refrigeration."

The following are the circumstances under which I observed the facts which were the primary basis of this proposition: In 1880 two young men entered La Pitié during my service and presented an ensemble of symptoms which admitted of the discussion of the diagnosis of a typhoid fever in the first stage in each one of these young men. This diagnosis had to be somewhat reserved, because these two young men had only been obliged to cease their work for the last four or five days. However, in one of these patients there existed pulmonary congestion with mucous rales, and in the other albuminuria and probably renal congestion. After some hesitation I decided to subject these two patients to the refrigerant method, with the hope, if they were in the beginning of typhoid fever, of modifying the progress of the disease and of avoiding the consequences of the hyperthermy, the rectal temperature being 41·1° in one of the patients, and 40·4° in the other. The action of methodical refrigeration had the result, in these two patients, of causing the temperature to fall, from the fifth to the eighth day, to 38·2° and to 37·6°, at the same time that the pulmonary congestion and the presence of albumen in the urine disappeared; convalescence in the two patients commenced the eighth and ninth day. I could not claim that refrigeration had jugulated typhoid fever in these two patients, for every clinician might doubt the diagnosis and refuse even to accept the existence of typhoid fever called abortive; but what is important to remember of the account of these two observations is that the pulmonary congestion and the albuminuria have disappeared from the fifth to the eighth day of the disease during the application of the refrigerant method. This double experience authorized me then to conclude that the refrigerant method had not increased the previously existing pulmonary congestion and albuminuria, and when we compare these facts of experimentation with the clinical facts related by several observers, and more particularly with the remarks of M. Bucquoy and of Prof. Boudet, upon the advantageous results of the refrigerant method in the visceral congestions of the adynamic and ataxic forms of typhoid fever, am I not authorized to conclude that the refrigerant method, contrary to the general opinion, has favorably modified congestion of the lungs and renal congestion with albuminuria?

From these different experiments upon animals and upon man, and from the clinical remarks which I have recalled, does it not appear that, contrary to the generally received ideas, methodical refrigeration in determined conditions does not produce visceral congestions, and, moreover, that methodical refrigeration may cause congestions to disappear when they had primarily existed?

But refrigeration, methodically applied, has not only the result of favorably modifying the visceral congestions, it has a general advantageous action upon the progress of typhoid fever; and I lay before your eyes several tracings wherein you will see a progressive and regular lowering of the temperature as the result of the refrigeration at the same time that we notice a progressive amelioration of the general state of the patient; besides, on comparing the progressive abatement of the temperature with the abatement of the organic waste, demonstrated by analysis of the urine, you will be led to think that the refrigerant method does not simply subtract caloric from fever patients, but that this method diminishes the metamorphoses, the organic combustion, and therefore that it acts upon the morbid thermic regulation; so that refrigeration must have a primary action upon the sanguineous fluid and a secondary action upon the pyrexia, hence it must be anti-thermic and anti-pyretic.

The action of experimental reduction of the temperature varies with the different procedures employed. Here is a tracing which shows the difference between the action of cold lotions and the methodical refrigerant envelopment upon a pupil of the Lyceum Louis-le-Grand affected with typhoid fever. The cold lotions, repeated several times a day for four days, did not modify the morbid thermic regulation, whilst the methodical refrigerant envelopment, applied during eight days, caused the rectal temperature to descend from 40·4° to 38·4°, and that regularly and progressively, at the same time that a general amelioration in the state of the patient was observed. Certainly, I repeat it, this method of treatment ought not to be exclusive of all other treatment, but I am convinced that, wisely and methodically conducted, it may give favorable results, and deserves to be experimentally tested and scientifically studied.

I will finish this article by some general remarks upon the action of cold water. This action varies according to the mode of application.

Cold water at 12° and 14° centigrade brought into immediate contact with the cutaneous surface for a few minutes only, determines at first the contraction of the peripheral capillaries and the transient cooling of the region to which the cold water has been applied; but soon, when the cold water is not renewed, to the contraction of the capillary vessels succeeds their dilatation and an elevation of the local temperature.

After cold lotions, one may observe a falling of the temperature of a few tenths of a degree; but this falling of the temperature is due to a nervous action, and is very transient. On the contrary, if the action of water cooled to 12° and 14° is prolonged for half an hour, an hour and more, the contraction of the capillaries is not continued, all the cutaneous surface in relation with the cold water is cooled, the cooling extends to all the deep and visceral parts, *through the medium of the blood*, and the rectal temperature may be lowered from two to three degrees centigrade. If the refrigerant action has continued an hour, an hour and a-half, the same time is, at least, required, in order that the peripheral and deep temperature may ascend to the degree of temperature which had been observed before the beginning of the experiment. These last remarks are applicable to the action of the cold bath and to the action of the refrigerant cover with a continued current.

It results from these facts, demonstrated by experimental study, that prolonged cold lowers the temperature of the whole body, whilst transient cold has only a transient action, soon followed by elevation of the temperature. Besides, in certain conditions of the temperature (7° to 8°) of a few seconds' duration of application, and in certain modes of application—the wet sheet, for example—cold water determines a reaction more or less active, and this last mode of action may be brought into requisition to warm up the patients. One may say then that cold makes cold, or that cold makes heat, according to the methods employed in the application of the cold. In fact, when refrigeration is prolonged it determines a lowering of the temperature of the whole body with diminution of the number of pulsations of the heart, of the arterial pressure, and diminution of the respiratory movements; whilst transient cold, by the douche, lotion, or envelopment in the wet sheet, determines an elevation of the temperature, the frequency and force of the pulsations of the heart and of the respiratory movements. So, at the beginning of the algid period of cholera, when the whole cutaneous surface is cold, when the pulse is insensible and the respiration notably diminished, it suffices, in certain cases, to envelope the patients in the wet sheet to obtain a reaction which betrays itself by the return of strength, the acceleration of the pulse, the amplitude and frequency of the respiratory movements, the elevation of the rectal and peripheral temperature, and a more or less abundant sweating. The reaction in these cases is sometimes so pronounced that the physician has to watch with attention the results of the period of reaction, in order not to exceed the end that he wishes to attain.

Prolonged cold in hyperthermy causes a more or less extended fall of the temperature, whilst transient cold in algidity produces warmth. Cold then produces cold or heat, according to the methods of application of the cold. In one case the cold cools the blood, and therefore all parts of the body; in the other, the cold, through the medium of the nervous system, determines a reaction of which the result is heat. In one case there is physical action, in the second vital action, and each one of these actions ought to be measured according to the indications.

Refrigeration, methodical, continuous, slow and progressive, well-conducted, does not produce action or passive congestion of the viscera in hyperthermic affections; but refrigeration, sudden, excessive and transient, may determine active congestion in the viscera. These remarks suffice to account for the different effects which have been noticed by different observers in the application of cold. The contradictory results are not imputable to the hydrotherapy itself, but to the different methods made use of in its application.

I affirm the correctness of the above-mentioned facts as far as concerns the use of cold lotions, of the wet sheet and of refrigeration, methodical, slow and progressive, mediate, *by means of my refrigerative apparatus*, because the facts have been observed by myself in making use of the above-mentioned methods of refrigeration transient or continued. But I declare that I am by no means authorized to lay down the same conclusions upon the subject of immediate refrigeration, more or less prolonged and repeated, by means of cold baths, according to the method of Brand, because I have not personally experimented with the method of the physician of Stettin, neither could I contradict the results obtained by those who have made use of this method; however, the experiments which have been made by Mr. MM. Leffont and Francois Franck upon animals authorize me to think that a *sudden* and *precipitate* or *too prolonged* refrigeration might produce passive congestion. It is needless to say that I am examining here only the congestive phenomena, and that I do not pretend to judge the therapeutics of typhoid fever by the method of Brand. However, I believe that we ought to take into very serious consideration the affirmation of the physicians of Lyon.

With these reservations, and after having communicated the experiments performed by M. Laffont upon animals, the experiments which I have performed upon man in a state of health, or upon the sick man, and having placed under the eyes of the society the reports of the aforesaid experiments, I believe myself authorized to maintain the conclusions which I have formulated in my first note, to wit: that the *slow and progressive* reduction of the temperature of animals and of man does not produce visceral congestions, and that, contrary to the generally received opinion, the *slow and progressive* reduction of the temperature may favorably modify the congestions previously existing.

EXTRA-UTERINE PREGNANCY OF SEVEN YEARS' STANDING. ESCAPE OF THE FŒTAL SKELETON BY THE RECTUM. By ST. H. DE BRUN DU BOIS NOIR, Interne des Hôpitaux. Translated by H. McS. GAMBLE, M.D., Moorefield, W. Va., from *Le Progrès Médical* of June 30th, 1883.

The patient named Moineau Léontine, aged 37 years, was taken seven years ago, in the second month of a pregnancy which appeared normal, with a sudden excessively sharp pain in the lower part of the abdomen, followed by syncope, vomiting and coldness of the extremities. It was the beginning of a peritonitis which for three weeks inspired the liveliest uneasiness, and from which the patient only recovered at the end of two months.

Then the pregnancy continued its evolution (without determining any other troubles than a sharply pronounced œdema of the legs) up to the middle of the ninth month. About fifteen days before the expected time, labor commenced, expulsive pains occurred and became more and more frequent, *the neck opened*, then all at once, at the end of three days, these phenomena ceased instantly; all painful contraction disappeared, the abdomen appeared to flatten a little, the neck closed again, and the next day the patient got up and resumed her habitual occupations.

For a few days she was incommoded by a sensation of tension of the mammæ, accompanied by a tolerably abundant lacteal secretion. Six weeks after this time menstruation was re-established, and during seven years has always taken place with the greatest regularity. During all this time the general health has been excellent; no pain in the abdomen, no irregularity in the intestinal functions, none of those troubles of compression or of those reflex phenomena which so often accompany uterine or peri-uterine affections.

The first of March last—the last period having occurred about fifteen days before—the patient is taken anew with a sharp abdominal pain, accompanied by fever, by a sensation of general malaise, anorexia and occasional vomiting. A peritonitis is diagnosed, which necessitates a sojourn in bed for five weeks. During this time some hair is passed, mingled with fœcal matter. Five months later, that is to say, in the course of the month of August, the patient expels per rectum some small bones, in considerable number, apparently belonging to the skeleton of a fœtus at term; each stool contained one or two. These bones were absolutely divested of all the soft parts to which they give attachment. The patient actually continues (November 27) to discharge them from time to time in the fœcal matters. She claims to have passed shreds of skin and débris of tendons and muscles.

A large part of the skeleton has thus been evacuated. We find some ribs, bodies of the vertebræ, a tibia, a radius, an ulna, a femur, a shoulder blade, the petrous portion of a temporal bone, a sphenoid, a superior maxillary, numerous phalanges.

The first two left ribs are united together for a portion of their length. All these bones are remarkable in that ossification is more advanced than at term.

For the shoulder blade, the ribs and the long bones previously mentioned, the diaphysis is ossified throughout its entire extent. A longitudinal incision practised upon the tibia shows us the compact tissue very thin at the extremities, growing considerably thicker towards the middle of the bone, at the expense of the medullary canal, which, at this point, is but little more than half a millimetre in diameter.

At first, during the month of August and the first fortnight in September, the patient suffered pretty sharp pains, having, said she, a certain analogy with those that take place during labor, sufficiently intense to prevent sleep for several successive nights, localizing itself in the epigastric and umbilical regions. For the last six weeks her sufferings have very much diminished.

In fact, the general health is very good. Good appetite; no intestinal troubles. Actions upon the bowels regular; no blood in the operations. The patient is able to resume her usual occupations.

At the lower part of the abdomen, on the right side, is felt a tumor of the size of a fœtal head at term, painless on pressure.

This tumor has slightly diminished in size of late. The rectal touch does not discover the orifice by which the cyst communicates with the intestines.

Reflections.—We find ourselves here in presence of a case exceptional from many points of view, and to which I have vainly sought an analogous example. Most frequently, in fact, in extra-uterine pregnancy, when the patient does not succumb to peritonitis, one of two things happens: either the fœtus undergoes an adipo-cirosis or calcareous degeneration, or, some time after the death of the fœtus, the cyst inflames and suppurates, and, after inflammatory adhesions have formed, there takes place an ulceration by which the sac communicates either with the neighboring organs or with the abdominal wall. When the opening takes place into the intestine the patient is seized suddenly with a diarrhœa, and passes by the rectum purulent matters, infectious detritus, in the midst of which are found fœtal bones.

Here nothing of the kind, no rapid evacuation, no calcareous transformation. The fœtus remains seven years in its cyst without determining any symptom. The skeleton is absolutely normal, only the ossification is more advanced than in a fœtus at term. It is difficult to give an explanation of this fact. Perhaps the infant has continued to live some time after the labor at the ninth month. The patient has not been able to give us any information on this subject. She does not recall having felt any movement after the normal time, and she does not believe that her physician then detected the cardiac pulsations.

Be that as it may, let us note this fact that, apart from the pains which have marked the process of ulceration, no morbid manifestation has been the consequence of the evacuation of the skeleton. Let us notice also the long duration of this evacuation, which commenced in August and which still continues at the end of October.

SELECTED ABSTRACTS.

Treatment of Enteric Fever.—Dr. Duboué, of Pau, in an essay recently published (*Cincinnati Lancet and Clinic*), points out that the prominent symptom in enteric fever is enfeeblement of the muscular tissues. This enfeeblement is present in greater or less degree from the very commencement of the fever, and increases with the progress of the disease. It affects the muscles of the limbs, giving rise to lassitude, which is so marked a feature in this fever. It affects also the muscular fibres of the cardio-vascular system, and in this fact lies its great importance. The heart becomes enfeebled, and the blood-current becomes retarded; and hence arises congestion of the various vital organs with its various more or less serious consequences—imperfect oxygenation of the blood, defective nutritive power, and the like. This being so, the main indication in the treatment of enteric fever consists, according to the author, in combating the muscular enfeeblement and consequent retardation of the blood-current. The other important indication, viz., the prevention of nutritive disorders, can only be attained by giving attention primarily to the cardio-vascular debility. For the fulfilment of this primary indication various therapeutic agents are useful, viz.: the external or internal application of cold water, quinine, creasote, carbolic acid, the preparations of salicylic acid, ergot, etc., all of which act either directly or indirectly as excito-motors. While all of these agents enumerated are valuable for the end in view, the most valuable of all is ergot. Dr. Duboué has given this drug an extended trial, and the results he has attained have satisfied him of its extreme value. He has administered it with the happiest results in cases of enteric fever of the greatest gravity—in some even where the patient seemed in extremis. He believes even that this remedy may cut short the fever in its prodromal stage. Dr. Duboué insists on the necessity of the ergot being of good quality. If the drug be bad, as it too often is, it may give rise to sickness and other untoward symptoms; but if it be good no such symptoms occur, and the author has found that patients suffering from enteric fever as a rule show a remarkable tolerance of the pure drug. The mean dose used has been from one gramme and fifty centigrammes to three grammes (about twenty-three grains to forty-six grains) daily for an adult, and from forty centigrammes to one gramme (about six grains to fifteen and a half grains) for children between six and twelve. The dose must, however, be varied according to the circumstances of each case. The administration of the drug should, according to the advice of the author, be continued until convalescence has been well established.—*Chicago Review.*

Variola and Vaccination is a subject of such moment to humanity that any one who can lay claim to extended experience associated with well-conducted observation will always be listened to with interest, notwithstanding a difference of opinion. The following are given by the Boston *Med. and Surg. Journal*, as the essential points of a series of papers by Dr. Leonard Voigt: 1. Vaccine lymph may be procured by vaccination of the cow with lymph taken from the pustules of persons sick with small-pox. But no one can be sure that every attempt will be successful. 2. The vaccine obtained in such a manner is suitable for the vaccination of men on account of the energy of its operation, but it should only be used after transmission from animal to animal several times, by which proceeding its effect is mitigated. 3. In the first year of its use vaccine lymph obtained in this way possesses a higher efficiency than an animal stock several years old. (By this term, a stock several years old, we should understand lymph transmitted from animal to animal, at the time of the maturity of the vesicle, for several years. In accordance with the custom of animal vaccinators each year would represent a series of fifty-two to sixty-five animals, the period of maturity presenting slight variations.) 4. Vaccina and variola originate in the same virus, and each gives to the person attacked a certain claim of immunity against suffering arising from the same source. 5. The duration of this immunity is in proportion to the intensity of the attack. 6. Among people who have had the small-pox twelve years before, we find almost the same susceptibility to vaccination as among those who were vaccinated at the same time. Consequently, children twelve years of age, and vaccinated during the first year, are liable again to take small-pox. 7. Therefore, the imperial vaccination law which orders the vaccination of infants and their re-vaccination at twelve years of age fulfils an actual necessity. 8. Animal lymph transmitted from calf to calf, and originally very active, loses its power earlier than humanized vaccine transmitted from arm to arm. Humanized lymph gives the best results in men and animals in the long run; therefore, the annimal vaccine of old stock promises inferior results to retro-vaccination of the first remove 9. Lymph carefully propagated, and originated from the cow-pox but a short time before, is the most efficient, not only in its animal but especially in its humanized form. Therefore, resort should frequently be made to the original cow-pox in order to obtain lymph as protective as possible.

Chloral Poisoning.—The *Phil. Med.* says: What are the remedies to be employed in acute chloral poisoning? They are especially those designed (1) to sustain the action of the heart, such as ammonia and brandy; (2) to keep up the breathing by artificial respiration, if needed; (3) to keep the patient warm; and (4) to use electricity as a cutaneous stimulant. Thus far you would treat a case as an ordinary one of narcotic poisoning. But is there any remedy that will counteract the depressing effects of the chloral on the nervous centres, and particularly the respiratory centre? Yes; the remedy for this purpose is strychnia, which antagonizes the chloral. It may be used as we give it here, hypodermically, one sixtieth of a grain every three hours at first; and it would have been given oftener, but it was not needed. Strychnia, therefore, is indicated as the physiological antidote. It stimulates the centres which have been depressed by the chloral. When recovery takes place it is usually rapid. What should be the treatment of chronic chloral cases? Suppose that a patient like this says that the habit is growing upon him, and comes to you for advice, what course would you pursue? I would answer that you must reduce the dose gradually. As large doses of chloral are only given exceptionally, there will be less difficulty on this score than with opium; but as you reduce it, I would strongly advise you to give strychnia or nux vomica for its effects on the nervous system. It antagonizes the effects of the chloral, and acts as a tonic at the same time. Those nervous centres which are reduced in their activity by the paralyzing effects of the chloral are stimulated by strychnia. If you use strychnia, you may stop the chloral almost at once without any bad effects being observed. I had a case in point last summer. A gentleman who had been taking chloral for some time found himself very weak, his will-power impaired, and he felt miserable. He determined to stop off entirely. He went to Atlantic City without a single grain of chloral. He took constant outdoor exercise. He was sleepless for a time, but he was able to overcome his evil habit; and, although he had been using chloral regularly for eighteen months, he recovered entirely. It should be stated that while giving up the chloral he took from time to time strychnia or nux vomica.

LECTURES.

A Lecture on the Treatment of Gunshot Wounds, delivered at Bellevue Hospital Medical College, by Sir William MacCormac, Surgeon to St. Thomas's Hospital, London.

Gentlemen: When, some time ago, Dr. Dennis invited me to come and make an address before you upon any subject I might choose, I begged that he would excuse me, because I felt that the number of subjects worthy of bringing to your attention was so great that it would be impossible for me to select one from among them. He, however, speedily disposed of that objection by choosing a subject for me, and so I ask you not to regard me as responsible for my presence here to-day, but I desire you to understand that the whole responsibility rests upon him. The subject which Dr. Dennis has chosen—namely, the treatment of gunshot wounds—is a very large one, and so broad that it cannot be worthily disposed of in a single lecture; moreover, it is one of very great interest and very wide application in surgery, and I must confess that I feel great hesitation in attempting to speak upon it at all in this place, because in this city, perhaps more than in any other with which I am acquainted, there are surgeons who have had a much larger experience in this branch in the late civil war than the surgeons in any other part of the world have. It seems to me, therefore, very much like "carrying coals to Newcastle," as they would say in the old country, for me to speak to you on the subject at all. The vast experience of your surgeons in the late war is embodied in those excellent volumes issued by the Surgeon-General, which for size, magnificence, completeness, and profuseness of illustration, are equaled nowhere else in the world. The other day I had the privilege of visiting the Army Medical Museum, under the supervision of the distinguished Dr. Williams, and there I saw examples of surgery, in specimens collected from far and wide, illustrating the effects and results of the treatment of gunshot wounds in recent wars. These showed such a wide experience in this branch of surgery that when I decided to speak to you I thought that neither the time nor the place was altogether fitting for me to make any very general remarks on the surgical treatment of gunshot wounds, and I thought you might be more interested in a brief account of my own personal experiences.

These experiences, or at least one phase of them, I think it is not unfitting that I should relate to you here. The special matter I wish to explain occurred twelve years ago in the Franco-German war, under the supervision of one of your own distinguished countrymen. I am only speaking the opinion often expressed by very competent authorities when I say that the ambulance service of that war was superior to any other ever known. At the head of that celebrated ambulance service was placed by the Government a man known all over the world as well as here, and beloved by every one who knows him, Dr. J. Marion Sims. I was connected with that ambulance service, and stationed in Paris, when our orders came to hasten to the camp of the contending army as soon as possible. We immediately started off fully equipped, and, after innumerable delays, we at length reached the encampment. We stopped near a place that was strongly fortified, and the opposing armies were not far distant from us. There was not a single uniformed soldier in the whole place where we were, and the only doctor I could find was an old French surgeon, who begged us to wait there till the wounded were brought in. We, however, pushed on to the railway station before halting, and while there, lying in our barracks, an incident occurred which was striking enough at the time. I was not asleep, though most about me were, when in the middle of the night a train arrived, or rather a strange sort of train made up of a cattle-truck attached to an engine, on which was the Emperor of the French, with two or three officers attending him. They stopped at the gate of the town and asked admission; they knocked and knocked, but no response was made, and so for one hour the Emperor and his officers stood there waiting for admission to the town before it was obtained.

There was nothing for us to do that night, but the next morning the disabled troops came pouring in by thousands, and we were very glad to accept of the only hospital there, which contained about four hundred beds, fairly comfortable and clean, and well enough fitted for the purpose. At dawn the battle began, and it lasted all that day. The wounded soon came in in great numbers, and all the beds were quickly filled; then the floors and the staircase were packed, every available house and church in town was crowded, all the country houses around the town for miles about were filled, and thousands of wounded men were thus disposed of. Of course, I need not say that all we surgeons, few in number, could do for so many sufferers was very little, but yet we did all we could. We were well equipped, and had surgical appliances and instruments of various kinds, and we also had all the advantages of a hospital while working in the front rank of battle, where we were busy all day while the battle raged and shells were bursting about our heads. From our station we could see the German batteries on the rising ground in front of us training their guns on the French troops behind us, while the shot and shell flew over our heads. At times a stray shell would burst near us or strike one of our buildings, but it was evident that the shots were not leveled at us. An officer in the German army, whom I met the other day, told me that he was in command of the battery in front of us at that battle, and he had recognized our flag, which marked the hospital, and had directed his shot away from us intentionally. That officer was a son of the distinguished surgeon Von Langenbeck. Another son was shortly after shot down four times in battle, and he lay for hours, yes, for several days, unrecognized before his father found him.

We had certainly a large number of operations to perform immediately, in the line of amputations and dressing fractures and wounds of all kinds, but we left all resections until a later date. Such a vast and varied experience is rarely given to any one in so brief a time, and, of course, we availed ourselves of the opportunities as well as we could. We, however, had numerous difficulties to contend with, for we were treating French soldiers who were demoralized by defeat, and, on account of the vast number of patients, they suffered for a time from inadequate nourishment and from an insufficient supply of appliances necessary for all. It was only for a short time, however, that we were thus embarrassed, for soon large extra supplies were forwarded to us. Yet at that time we did not have the advantages of the antiseptic methods of treatment which have since effected such favorable results, and it was quite distressing to see, in spite of all our care, our patients, with wounds and compound fractures, die of blood-poisoning or erysipelas, which spread from one to another.

I said that we left our resections for a later day. I agree with Von Langenbeck that we should be very careful how we perform resections as primary operations under such circumstances. Primary resections are not satisfactory, or favorable to life, and I think they are infinitely risky. These late resections then performed were many of them on soldiers who were soon after sent away, and they could not all be followed up, but very satisfactory results were sometimes obtained. There are many reasons why such operations as resections should be performed late, after the primary inflammation has subsided, for, after that time, those cases in which amputation should be performed have been selected out, and, besides, the numerous small pieces of bone which are always found in comminuted fractures about the joints have become separated and have disappeared in the discharges, so that the amount of bone that can be saved may then be determined more accurately. A fracture made by a gunshot wound is almost always a comminuted fracture, and later on you can always ascertain the limitations of the diseased process more accurately than at first. We can, however, here perform partial operations immediately, and I think that recent experience has clearly shown that these partial operations are not only less dangerous than primary resections, but that they are often followed by more satisfactory final results. Later on, the periosteum about the fractured bones becomes thickened and tough, and rapidly produces new bony tissue, while in the early period the periosteum over a newly fractured adult bone is especially thin and easily torn, besides which it possesses very little osteogenetic power. For these reasons I think that resections are more wisely performed at a late period.

I do not wish to weary you with a citation of cases, but I do want to give you one or two illustrations, showing you what favorable results may be obtained in this class of operations. Neither would I dwell on the greater risks which attend operations on certain joints, but I will merely state that the wrist, ankle, elbow, and shoulder joints are best fitted for resections, while the knee and hip joints are least fitted for operations of this kind; and I think experience has amply shown that the statement that these joints had better be left alone is one of extreme utility.

Now, I wish to tell you of one case I know of as an illustration of the good results obtainable in these late resections. There was a young officer in the German army in the late war who was shot through the ankle joint, and there was very extensive shattering of the lower end of the tibia and a large part of the fibula. Von Langenbeck excised the lower three inches of the tibia and the larger portion of the fibula, and the result was that the man not only made a good recovery, but there was no change in the appearance of the joint, and that its function was good is proved by the fact that a few months later he walked all the way up to the top of the famous Monte Rosa, in the Alps, which is no easy task for a man the function of whose limbs has never been impaired. I refer to this case because it is somewhat unique.

Some ten or eleven days after the battle I was speaking of a short time ago, a French chasseur was brought into our hospital who early in the day of the fight had received a wound in the face, but who, nevertheless, had gone on fighting till late in the afternoon, when he was wounded by a shell which burst and shattered the shoulder and elbow joint on the right side. When I first saw him, ten days later, the shoulder joint was improving, but there was still a large open wound communicating with the elbow joint. I opened the shoulder joint and removed the upper end of the humerus, also numerous pieces of comminuted bone from the shoulder and the elbow joints, and then excised the lower end of the humerus and the upper end of the ulna and radius. After a time, the man recovered completely and went home, and so passed out of my observation. But I have heard from him every year since, for he writes me every Christmas, telling me of his condition, and I have found that the first result was a necrosis of a considerable portion of the remaining part of the humerus; but later on he said that there was a very complete reproduction of the shaft and some of the upper and lower ends of the humerus. He has been under the constant observation of a skilled surgeon at his home, who has explained to him the onward progress of repair, and he reports to me. He can now perform quite readily all the underhand and rotatory movements with the shoulder and elbow joints, and he can do whatever light work he wishes to. He can saw wood and go through the motions necessary to plane a board, he can use a spade in digging, he has rolled a heavy cask up an inclined plane to get it in his cellar, and he finds that he can use that arm for all the practical purposes of life. The deformity left is so slight that, when his family doctor, at my request, measured the amount of shortening of the arm and sent me the results, he gave me the measurements from the acromial process of the scapula to the external condyle of the humerus, and he described these as if they were in their normal condition and had never been removed, evidently not being aware of the exact nature and extent of my operation. So these portions of bone must have been restored to nearly their former shape. By that operation his arm was preserved to him and is now a useful member.

I think, then, that I have shown you, in the first place, that operations of this kind—namely, resections — had better be performed in the secondary period, that they had better be partial if possible, and that certain joints are more fitted for operations of this character than others.

Now, another thing which I think I have learned, and desire to teach you, is to avoid probing gunshot wounds altogether, or as far as possible. I have seen great harm come from this practice, and the fact cannot be too strongly impressed upon you that the bullet itself is of very little importance in these cases. I know that nearly always the first thing that a patient who has been wounded will ask the surgeon is, " Where is the bullet lodged ? " and then he will expect to be relieved by its removal. I think that under these circumstances the surgeon is too often apt to be so inconsiderate as to try to please the patient and accede to his wish. Any one who has had much experience with gunshot wounds knows how easy it is to fail in finding the ball, and how difficult it often is to distinguish by the probe between a piece of lead and an exposed surface of bone, or a piece of fascia or a tendon ; and in such cases, if he does not succeed in finding the bullet with the probe, he is very apt to search for it with his finger ; then he tries with one forceps and then another to extract it, and in this way septic matter is almost necessarily introduced, so that a wound of a joint which might otherwise have healed perfectly without a particle of suppuration is doomed to suppurate, and possibly the whole limb will in consequence be lost. Besides, experience shows constantly how frequently bullets become lodged in muscles, bones, or some of the viscera, and there become encapsulated and never cause further trouble. The point I wish to insist upon is, that there is infinitely more danger created by the surgeon who attempts to search for and extract a bullet than would result from leaving half-a-dozen bullets to take care of themselves. In all the pathological museums throughout the world may be seen specimens of bullets lodged in lungs, liver, brain, and bones, where they had remained imbedded for years without impairing the functions of these organs. At the museum in Washington I recently saw a specimen from a man who had received a gunshot wound which had fractured the upper part of the tibia, and the bullet appeared to have lodged just below the cartilaginous surface of the lower end of the femur. The surgeon who had attended him at the time of the injury had thought that there was not a wound of the joint, and so had not operated, but had left it alone. The man lived for years afterward, and after his death this specimen of the bones was brought to the museum at Washington ; it was found then that the bullet had caused no injury to the joint at all, and it had not troubled the man for years. I wish by this recital to impress upon you the point that bullets left to themselves are not such dangerous things as they are generally supposed to be. In the recent Turkish and Russian war there was also a strong practical illustration of the value of this let-alone policy. A very distinguished surgeon and a noted professor, both in Berlin and in St. Petersburg, introduced into the hospital the plan of treating all wounds antiseptically, and he had to deal with a great many penetrating wounds of the knee. These he treated by not searching in the tract of the wound with instruments, but he immediately put them up in antiseptic dressings and kept the limb immovable. I quote from memory when I say that nineteen out of twenty-one recovered, not with stiff joints at all, but with movable joints. If you can trust to the evidence of such a series of cases as that, coupled with what I have heard Von Langenbeck say—that he did not believe that a single case of a wound of the knee joint in the whole Franco-German war recovered—you can see clearly what striking advances have been made recently in the treatment of gunshot wounds. Another thing told me by a surgeon of distinction who has had much experience in several wars in the past few years, was that he never interfered with or probed a gunshot wound of the knee, and his published reports show that the results of these fractures in his hands have been infinitely better than those of any other surgeon. This is another illustration of the importance of avoiding all interference with gunshot wounds. Professor Esmarch, of Kiel, whose reputation you all know, preaches from the text, "don't injure" or "don't do damage," and refers to the interference with gunshot wounds; and I think that I have now said something to show you the importance of such a maxim.

Gentlemen, I should like to refer briefly to another question at this point, and that is in regard to the treatment of gunshot wounds of the abdomen. Some months ago Marion Sims, who has honored us by his presence to-day, published in one of the medical journals an interesting series of papers, in which he said that these injuries should not be left to themselves; but what he proposed was, that the abdominal cavity should be opened and searched, the bullet be found and extracted, the peritoneal cavity then be cleansed antiseptically and closed, after which treatment it might be possible for recovery to follow where death was otherwise almost inevitable. Now, there is very much in favor of following out this plan, for in these days the abdominal cavity is opened frequently for the removal of diseased organs, and I think that every viscus except the liver has been removed successfully. Portions of the stomach and intestines have been excised, and kidneys, ovaries, the uterus, and tumors of these organs and of the intestines, and, in fact, foreign bodies inside of the intestines, have been removed, and recovery has been the rule; therefore there can be no good reason why such an operation as that suggested should not be performed in these otherwise fatal cases of gunshot wounds. The danger of leaving them alone is, that an extravasation of blood may occur within the peritoneal cavity and set up a fatal inflammation, but yet it is possible for a bullet to become encapsulated even here without doing great harm. The intestines may not be injured although the abdomen is penetrated, for you know that a bullet has frequently passed through the whole abdominal cavity without damaging the intestines at all; yet they may be severed at some point, and it is, therefore, advisable to lay open the abdomen and search for a wound of this viscus, and, if found, sew it up. When I think of the fact that, in a case where the bladder was ruptured in the course of an operation for the removal of an ovarian cyst, the urine poured out into the abdominal cavity, and yet, after washing it out, the patient recovered, I do not think that in a case of gunshot wound of the abdomen we should stand by and fold our hands in despair, but we should give the patient the benefit of the only resource left.

If I were not afraid of tiring you, gentlemen, I should like to give you the evidence of distinguished surgeons showing how successfully antiseptic surgery may be carried out on the battle-field. All surgeons have long been thinking and devising plans of carrying out this method in time of war, and it has been found that certain modifications can be advantageously made, and that certain of the minor details may be omitted. I think we have found that the spray of carbolized vapor may be eliminated, and that we may accomplish the same object by frequently douching the parts with a carbolized solution. Of late there have also been discovered many means by which antiseptic substances can be packed in a very small bulk, and so be easily transported. Though it would be interesting to describe some of these devices, yet they are too numerous for me to even mention at this time. One of the best preparations at our disposal, however, is iodoform, for it is easy of application, its bulk is small, and, for dressing such external wounds as I have spoken of, there must be a very great future before it.

I would like to give you here another illustration of the marked success which is due to the introduction of antiseptic dressings in the treatment of gunshot injuries. You know that only lately England had a war of but brief duration in India, yet in that short space of time there were a considerable number of men wounded, and among these cases there were many of severe injuries of the limbs requiring amputation. An expedition was sent out to the seat of war by the Government, equipped with every improvement in antiseptic surgery that could be devised, and many fractures and amputations were treated on this method. The result was—and again I quote from memory, and cannot vouch for the exactness of the figures—but, if I remember rightly, out of one hundred and thirty-six wounded men there was not a single instance of any one suffering from any form of infectious disease whatever; there was no erysipelas and there was no pyæmia. Any one who knows the history of such campaigns in past years, before the antiseptic method was introduced into military surgery, knows that such a result as this is unprecedented.

Gentlemen, after all, What is surgery? Do you say it is the work of a man's hand? Do the surgeons of to-day work with their hands alone? Not so, but with their hands and hearts and brains. Surgery is a battle with Death, in which the surgeon is often vanquished, it is true; but never have his equipments for the fight been so complete, nor his victories so glorious, as at the present day. We speak of conservative surgery a good deal in these days, but I think that is a bad and useless term. For is not all true surgery conservative? I believe that the word is meaningless, and should be banished from our professional vocabulary.

The surgeon should he a man of judgment, and, in his training, should receive the highest and broadest culture which our schools and colleges afford. The field of instruction is no doubt vast, but, on the other hand, human intelligence seems capable of growing with the requirements for its action. In the future, no doubt, we shall witness new applications of the surgeon's skill, and new methods of dealing with casualties, and the same glorious advances, I feel assured, await the surgeons of the future as have marked the progress of the surgeons of the past. Much has been accomplished by those who have come before you, but presently their duties will fall upon you, and that you may all be fully prepared for the work is my highest wish.

In closing, I wish to thank you much for your courtesy in so attentively listening to what I have had to say on the few points which I have been attempting to impress upon you, and to express my appreciation of the honor done me by your instructors in asking me to speak to you in this place. And now, on the point of returning to my own country, I can say that I go with only the happiest recollections of my visit here, and I may add that I am not vain enough to believe that the kindness and hospitality constantly showered upon me here were at all personal in their intentions, but rather that they are the expression, on the part of the more highly-educated portion of this community, of their love and respect for old mother England, for "the old country," and for "home." During the eight weeks of my almost incessant traveling since I came to this country I have heard but one expression—that of good-will—toward my own people, and I wish now to assure you how cordially this feeling is reciprocated at home, and I hope that this feeling of mutual good-fellowship and good-will may never cease or become weakened.

LECTURES DELIVERED AT BELLEVUE HOSPITAL, NEW YORK, BY PROF. AUSTIN FLINT, M.D.*

I. HEART COMPLICATION IN ACUTE ARTICULAR RHEUMATISM.

GENTLEMEN: The young man whom I bring before you first to-day is now convalescing from an attack of acute articular rheumatism, which began three weeks ago. He entered the hospital only a few days since, however, and up to that time he had received no medical treatment. At the time that he was admitted different joints of the body were affected, and there was still a certain amount of fever present; but under the treatment adopted here the symptoms soon disappeared. This consisted of twenty grains each of the bicarbonate of sodium and salicylate of sodium every two hours. The system was thus promptly brought under the influence of these remedies, and it seems to have tolerated this large amount very well.

The special point to which I wish to direct your attention in connection with this case is that an examination of the heart reveals the presence of a mitral systolic murmur. The question at once arises, is this murmur the result of lesions caused by the attack of acute rheumatism from which the patient is just recovering? You must recollect, in the first place, that endocarditis not infrequently entirely escapes notice. In this instance the patient informs me that he has had no pain in the cardiac region; but even if he had had pain there, it might very likely have been due to other causes, such as neuralgia or muscular trouble. While endocarditis in many instances does not give rise to any pain, it is also true of it, as well, that it may not occasion any disturbances of the heart's action, or much increase in the fever due to the attack of acute rheumatism in connection with which it occurs. In a great many cases we can only tell that endocarditis has supervened by the fact that an organic murmur is discovered which did not previously exist. If there has been any increase in fever noted, this would, of course, be corroborative evidence of the existence of endocarditis. As I have examined the present patient for the first time to-day, I cannot say whether the murmur of which I have spoken is due to a recent endocarditis or to one occurring in connection with some previous attack of acute rheumatism. On questioning him I find that he has had previous attacks of the latter; the first one having occurred ten years ago, and the last one, four years ago. There is one point, however, which may throw light on the matter. If there is enlargement of the heart, there can be no doubt that the mitral murmur results from an old lesion; while if there is no enlargement, the inference is that the endocarditis has occurred during the recent attack of rheumatism, although this does not necessarily follow. Before proceeding to find out the area of cardiac dulness here, I may premise that the patient tells me that he has sometimes suffered from shortness of breath on exercise, which would seem to indicate the existence of more or less cardiac trouble prior to this illness. Now, making the examination, I find that the apex beat is in its normal position, and careful percussion fails to elicit any increase in the normal limits of cardiac dulness. It cannot be positively determined, therefore, whether the endocarditis occurred in connection with the recent, or some previous, attack of rheumatism. We can only say that if it did take place during some other attack, lesions have not as yet resulted which commonly give rise to cardiac enlargement.

It may, perhaps, be asked whether this may not be merely a functional murmur, after all. I think it is not, because it has been doubted whether a persistent mitral murmur is ever of this character; and even if such a thing were possible, it must be of such rare occurrence as to make it scarcely worth while to take the supposition into consideration. The murmur found here, it seems to me, is probably due to a little roughness of the valves resulting from endocarditis; and the lesion, whatever its nature, is at all events giving rise to no difficulty whatever at the present time. There is also, I find, a murmur at the base of the heart in this case; but this I judge to be inorganic, as it is of the character which we frequently meet with in anæmic subjects, and especially among women.

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* Reported for the *Boston Medical and Surgical Journal.*

Our second patient to-day is a woman who is still confined to her bed. She had one attack of acute articular rheumatism a year ago, and the present one commenced two weeks since, although she was not admitted into the hospital until the day before yesterday. Different joints have been affected, and she has had a certain amount of fever; but I do not know what kind of treatment she has been getting. When I first saw her, which was the day of her admission I listened to her heart to see if I could discover the presence of a mitral murmur, and failed to detect any. I did not make any examination of the patient yesterday; but to-day I find that there is a mitral murmur. It is a direct systolic murmur, and there is no regurgitation. Unless I overlooked its presence when I examined the patient the day before yesterday, it is, therefore, a murmur which has just been developed from the effects of endocarditis. The woman says, on being questioned, that she has some præcordial pain, but it is quite evident that she lays very little stress upon it. It is a fact worthy of notice in connection with this endocarditis, that the joint symptoms have almost entirely disappeared since it commenced. On admission this patient was put upon the same treatment as the first one; but the stomach soon rebelled, and troublesome vomiting ensued. She has practically, therefore, had no treatment since she came in. The one great object of medication in acute rheumatism is to prevent cardiac complications. Although pericarditis may be accompanied by more or less danger, endocarditis is of itself of no consequence whatever. In a certain proportion of cases, however, organic lesions will sooner or later result from it; and so, when I bring cases of valvular disease of the heart before you, and ask whether the patients have ever had acute articular rheumatism, in nine cases out of ten the answer is an affirmative one. The question then arises, What are we to do to avoid this complication? This cannot be accomplished by cutting short the attack of rheumatism by such remedies as the salicylate of sodium; although this is certainly a very desirable thing to do. The only means at our disposal, which, so far as I know, offers any chance of warding off cardiac complications, is to render the blood alkaline as rapidly as possible, and then keep it constantly in this condition. Reliable statistics establish the fact that this unquestionably has the effect of preventing endocarditis in a considerable proportion of cases. From half a drachm to a drachm of bicarbonate of sodium should be given every two or three hours until the urine is distinctly alkaline; after which the quantity may be greatly reduced, as a comparatively small amount is then sufficient to maintain the alkalinity. At present the patient before you is getting along very fairly, but I think that in her case it would be highly desirable to return to the alkaline treatment just as soon as it is practicable.

II. A CASE OF FATTY LIVER IN CONNECTION WITH ASCITES FROM HEPATIC CIRRHOSIS; REMARKS ON TAPPING IN THE LATTER CONDITION.

The woman who is now before you I selected the day before yesterday as a suitable case upon which to make some remarks before you in regard to the practical treatment of ascites from cirrhosis of the liver. Since then she has had a violent attack of delirium tremens, which of itself is an excellent commentary on the usual causation of this affection; but which, as you see, has left her in a condition which renders any satisfactory examination of the abdomen out of the question at present. It has been my experience that women with delirium tremens are less manageable than men suffering from it; and this patient has proved no exception to the rule, as I learn that she has made frequent attempts to assault her attendants.

The history of the case is as follows: Catherine S., fifty years of age, and a native of England. She was admitted to the hospital twelve days ago, when she stated that she had been a moderate drinker for a number of years, and that during the last six months she had been drinking hard. She would always take whiskey before breakfast, and after a time she began to suffer from vomiting of mucus in the morning, with anorexia. I may here remark that gastritis such as is thus discribed is rare except in connection with conditions of alcoholism, like that which is present in this case. During the last year she has vomited blood at times, and there can be little doubt that this hæmorrhage is due to cirrhosis of the liver, of which, as you know, it is one of the symptoms. She has also suffered from pain and swelling in the abdomen, and for three weeks before admission (during which time she was drinking harder than ever) she had a constant diarrhœa. Here, then, is a group of symptoms altogether characteristic of cirrhosis of the liver; ascites, hæmorrhage, and diarrhœa.

The patient has also had more or less icterus of late. The explanation of this probably is, that having a gastritis or a gastro-duodenitis jaundice has been caused either by obstruction to the passage of bile or extension of the inflammatory action along the duct. Cirrhosis of the liver, as a rule, does not give rise to icterus. The urine, which is of a specific gravity of 1,014, contains bile, and also a moderate amount of albumen. The liver in this case is enlarged, and not contracted, as is usually found in cirrhosis, and I think there is good reason, therefore, to believe that there is fatty degeneration as well as cirrhosis of the liver here. The spleen is found to be enlarged, and this is corroborative evidence of the existence of cirrhosis, enlargement of the spleen being one of the ordinary concomitants of that condition.

This case, then, is one of considerable interest, first, on account of the occurrence of delirium tremens, and, secondly, on account of the ascites. The delirium tremens has been treated with a moderate quantity of alcohol, the bromides, and, I believe, a certain amount of opium. The violent symptoms have disappeared, but you will observe that the tremor characteristic of the affection is still marked. I will not dwell upon this feature of the case; but will pass on to the ascites, which is the topic of which I wish to speak more particularly. There is one point in connection with the treatment of this condition which I have inculcated for the last twenty years, namely, the advantage of early tapping, and of tapping frequently afterwards, if necessary; and although I have done this with all the earnestness in my power, I find that both in this country and in Europe the great mass of the profession still adopt this measure only as a last resource, when everything else has failed, and the danger to life becomes imminent from the enormous accumulation of fluid. It is only recently that I saw in the *British Medical Journal* the report of a discussion on this subject in London, in which the majority of those who spoke took this view. I have generally observed that when ascites comes on in connection with cirrhosis of the liver the quantity of fluid increases quite rapidly. The rule by which I am always governed, and which I cannot recommend to you too strongly, is this, that the moment that the accumulation becomes at all inconvenient to the patient, tapping should forthwith be performed.

The principal objections that have been urged against this plan are two in number; first, the danger of collapse if the patient is in a weak state; and, secondly, the danger of peritonitis. In regard to the first; I may say that in all my experience I have not only never seen a fatal result but have never met with a case in which there was any alarming syncope. If dangerous syncope is apprehended, however, all risk of it can be avoided by resorting to aspiration, by means of which the fluid is removed very slowly. As to peritonitis, I have known but one instance in which this resulted from puncture of the abdomen, and this was in a case complicated with general dropsy which was caused by disease of the kidney. In renal disease, as is well known, there is a direct tendency to inflammation of the serous membranes. But even in that case peritonitis would probably have been avoided if aspiration had been employed. I usually use an ordinary trocar and canula; but the only objection that I have to aspiration is the length of time which it requires for its performance, It seems to me, therefore, that there is no weight whatever in the objections which have been made to early and repeated tapping. The remedies employed to get rid of the fluid when this is not resorted to are of three kinds: diaphoretics, diuretics, and hydrogogue cathartics. Very little reliance is ever placed in the first two of these, which are very slow and uncertain in their effects, and the chief dependence is on the third class of agents. This is more efficient, it is true, but at the same time it must be acknowledged that the action of such remedies is very depressing, and, consequently, detrimental to the general health of the patient. If, therefore, it is desirable to get rid of the fluid in the peritonæum, why not do this at once by a trifling operation, which is harmless, and prompt and efficient in its action. This, it seems to me, is the view that common-sense teaches us to take of the matter.

Yesterday I saw a patient whose case has been of great interest. I was first called to see him eleven years ago, when he was forty-five years of age. Without going into any details of the case, I will simply mention that he was suffering from ascites, and, in addition, was so reduced by vomiting and the discharge of blood from the bowels that he was considered in imminent danger. Three eminent physicians were in attendance, and although the distress caused by the abdominal fluid was very great, it was decided that it would be too much of a risk to resort to tapping. At the request of the gentleman's wife I was called in consultation, and at my suggestion the tapping was made, although I did not expect anything more than temporary relief. This was certainly afforded, and during the next three months he was tapped no less than ten times, 350 pounds of fluid being removed. After the tenth tapping there occurred a moderate accumulation; but this gradually disappeared spontaneously, and to-day the patient is in good health. I might mention many other cases in which repeated tapping was attended with the happiest results; but will not take up more of your time.—*Boston Journal.*

SELECTIONS.

Action of Alcohol on the Heart.—The following is quoted from an article by Professor Martin, of Johns Hopkins University, in the *Maryland Medical Journal* for September, 1883.

Although the physiological effects of alcohol manifest themselves in many directions, we can only hope to arrive at valid conclusions by taking up the questions one by one. Our own researches made on dogs have been confined to a quite limited field, viz., what is the direct and immediate action of alcohol upon the heart, both as to its rate of beat, and as to the work done by it in a given time. Chronic abuse of alcohol of course affects the heart; but our inquiry has hitherto been limited to the immediate action upon the heart of a moderate quantity of pure alcohol added to the blood flowing through it; the heart being put entirely out of control by extrinsic nerve centres, and isolated from all other organs but the lungs. In other words, our problem was: What is the immediate action, if any, exerted upon the heart by a single dose of ethylic alcohol?

As regards action upon the pulse-rate, our experiments confirm those of Zimmerberg and others, alcohol in doses, not directly poisonous, does not affect the rate of beat of the heart.

As to the influence of alcohol upon the work done by the isolated heart, we have, however, obtained some results which we believe to be new.

Our method of experiment was as follows: A dog having been placed fully under the influence of morphia sub-cutaneously injected, its heart and lungs were isolated in the manner which I had the honor to describe to this faculty two years ago.* The heart was then fed with defibrinated blood obtained by the previous bleeding of other dogs, and supplied to the superior vena cava, under a constant pressure from Mariotte bottles. These bottles were four in number; two of them arranged to contain and distribute blood containing no alcohol, and two of them blood containing alcohol. By stopcocks any bottle could at will be connected with the heart. At the commencement of the experiment the heart was fed with blood mixed with one-fourth its volume of 0.75 per cent. solution of sodium chloride in distilled water—2,000 cubic centimetres of blood mixed with 500 cubic centimetres of the salt solution. This blood, passing from right auricle to right ventricle, was sent through the lungs to the left heart, and from the left ventricle was pumped out into a tube connected with the right carotid artery. The aorta was ligatured immediately beyond the origin of this vessel. The tube connected with the right carotid conveyed the blood to a height sufficient to maintain about an average arterial pressure, as measured by a mercury manometer connected with the root of the left carotid. The pen of this manometer recorded on the kymograph not only the average arterial pressure, but the pulse rate. Uniform and free artificial respiration was maintained by a water engine.

The mode of work was as follows: One of us took charge of the kymograph, and was also responsible for time signals. All being ready, the heart was placed in connection with a flask containing good blood and allowed to pump blood from this flask into another. Let us call the four flasks A, B, C and D respectively. When flask A was empty and B filled, it was easy, by opening and closing the proper stopcocks, to supply the heart from B and let it pump into A, and so on, to and fro, with the good blood for a certain time. At short intervals the blood pumped out by the heart in a minute was collected separately and measured. As soon as it was found that this work was pretty constant, varying not more than 10 cubic centimetres in a minute, the good blood was shut off and the poisoned blood from C turned on; this was pumped into D and collected there. While this poisoned blood was circulating, the quantity pumped out by the heart was measured from minute to minute; then good blood again turned on, and the measuring continued. Any experiment in which the heart did not under these circumstances show marked recovery from the action of the alcohol was rejected, so as to avoid the risk of ascribing to the alcohol something which was possibly due to the independent death of the heart.

The general result of our experiments may be primarily stated as follows: Blood containing one-eighth per cent. by volume of absolute alcohol has no immediate action on the isolated heart. Blood containing one-fourth per cent. by volume, that is two and a-half parts per thousand of absolute alcohol, almost invariably remarkably diminishes within a minute the work done by the heart; blood containing one-half per cent. always diminishes it, and may even bring the amount pumped out by the left ventricle to so small a quantity that it is not sufficient to supply the coronary arteries; hence blood is drained off by them from the outflow tube, and at last none is pumped out from its upper end at all.

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* Transactions of the Medical and Chirurgical Faculty of Maryland, 1882, p. 203.

We may here point out that the dose of alcohol was not *a priori* a large one. A man weighing 150 lbs. contains 11½ lbs of blood; one-quarter per cent of this is 0.46 of an ounce, a quantity exceeded by that in a single ordinary drink of brandy, and some people take a good many such drinks in a day. Moreover, the alcoholized blood in our experiments could hardly have acted on the heart as it flowed through its cavities; it must almost certainly have acted on the heart after it flowed through the coronary arteries to the capillaries of the organ and came into close relation with its muscular and nervous tissues. To get to these capillaries it had first to circulate through the lungs, and there is no doubt some of even the small quantity of alcohol present was eliminated.

What is the cause of this diminution in the quantity of blood pumped out?

Differences in the flasks and rubber tubes being excluded as causes of the phenomenon, we have to seek for it in some action exerted by the drug on the living organs; and here several possibilities suggest themselves. It might be that the alcohol constricted the pulmonary vessels, and so prevented the blood from reaching the left ventricle as freely as before; or it might be that it dilated the coronary arteries and so drained off more blood through the coronary circuit, and thus left less to be pumped out from the exit of the outflow tube; or it might be that the pumping power or the capacity of the left ventricle was altered; or, of course, there might be combinations of these.

We were set on the right track one day when we modified the experiment by cutting away the pericardium before administering the alcohol. To our surprise even blood containing ½ per cent. of alcohol now had little or no effect on the work done by the heart.

We tried this repeatedly in another manner. Keeping the heart in the pericardium, we administered alcohol and got the usual result; then recovered the heart by good blood, cut away the pericardium, again gave alcohol, and now with little effect. As the absence of the pericardium could hardly in any conceivable manner prevent constriction of the lung arterioles, or prevent dilatation of the coronary vessels, it was clear that neither of these would account for the results of the administration of alcohol.

Our attention was therefore turned to the proper heart substance. Direct observation of the organ, in fact, showed it to become enormously distended when supplied with the alcoholized blood. Normally, the dog's ventricle contracts so as to completely empty itself and obliterate its cavity. Under the influence of alcohol this is entirely changed; the ventricle ceases to contract completely; even at the height of its systole the organ completely, or nearly completely, fills the pericardiac sac; in its diastole it has little or no room to expand further and take in a fresh supply of blood.

Hence a great diminution in the quantity of blood which it has ready to pump out at its next contraction. If now the pericardium be cut away, the heart enlarges enormously in diastole, takes in its usual quantity of blood, and drives it out at the systole; hence the organ performs its usual amount of work. This seems to show that the muscular power of the organ is not at first influenced; if the heart be not confined in the pericardium, and the quantity of alcohol in the blood flowing through it does not exceed ½ per cent. by volume, the work done is not effected, at least for a considerable time. It is not the contractile power, but the elasticity of the cardiac muscle that is influenced; its "tone" is lowered, and it works under new, and, when the pericardium is present, very unfavorable conditions. It acts like a greatly relaxed muscle, which contracts to half its normal extent, compared with a healthy muscle, in good tonic state, which when fully extended is shorter than the atonic, and whenever it contracts, contracts more completely; and, so far as the heart is concerned, to the fullest possible extent. If, however, the administration of alcoholized blood of ¼ or ½ per cent. be long continued, or if blood containing

1 per cent. of alcohol be used, then, even with the pericardium removed, the systole becomes feebler and feebler, the work done less and less, and finally *nil.*

Whether alcohol directly combines with the cardiac muscular tissue, or whether it indirectly influenced it by interfering with its nutrition, we are not able to say. The rapidity with which the effect manifests itself seems in favor of direct poisoning; on the other hand, the dog's heart will only bear a very brief deprivation of oxygen, and it has been shown that alcohol added to the blood makes it hold its oxygen more firmly and yield it less readily to the tissues; and the heart subjected to alcohol has very much the appearance of the heart of an asphyxiated animal. On the whole, we are inclined to think that the poisoning is direct.

We have made a few experiments to see what dose of alcohol given by the stomach to a dog will produce some similar action on the heart. When the heart lies in the body and in connection with the central nervous system, there are of course considerable difficulties to be overcome, and all we can say as yet is, that to get any direct influence on blood pressure, one must put much more alcohol into the stomach than an amount equal to ¼ per cent. of the total blood in the animal. It is either not absorbed fast enough to reach at any moment the heart-poisoning limit, or, more probably, is picked up by other organs, very likely the liver, and held back from the heart.

We then tried in another way, by directly injecting into the jugular vein of a curarised dog a small quantity of salt solution containing an amount of alcohol equal to ¼ per cent. of the total blood of the animal, reckoned as one-thirteenth of its weight. In such cases we found usually a very temporary enfeeblement of the heart, indicated by a lower arterial pressure, but this seems only to last while the injected solution is flowing through the organ, or for a few seconds afterward. Before the blood returns it has apparently deposited its alcohol elsewhere in the body, or at any rate got rid of it somehow, so that it no longer acts immediately upon the heart, at least to a directly noticeable extent.

CONSUMPTION. By E. P. HURD, M.D., Newburyport, Mass.

THE PHARMACEUTICAL TREATMENT.

The medicinal treatment of phthisis is generally unsatisfactory, except so far as it is auxiliary to the hygienic. Common experience demonstrates this. Hygiene is of more value than drugs, and of the latter there are but a few on which we can rely. Reference to very many articles in back numbers of the Boston *Medical and Surgical Journal,* devoted to the treatment of this formidable disease—and scarcely any disease has such a literature as phthisis—only results in the conviction that while cod liver oil, compounds of phosphorus, tonics and stimulants, with medicated inhalations, may be of material benefit associated with the hygienic measures insisted upon in a previous article of this series, alone they are of but little advantage as curative means, and that when the phthisical invalid is obliged to remain at home and in-doors, doing little or nothing to avert the dire malady but take medicine, and await the daily visits of his physician—hard as it is to confess it, it is true—the patient is already past cure.

The following notes of two cases from my record book are a sufficient illustration of the disease in its gravest aspect. Observations such as these are of almost daily experience:

PHTHISIS IN THE STAGE OF EXCAVATION; CAVERNOUS RESPIRATION AND PECTORILOQUY; AMPHORIC PERCUSSION RESONANCE; SLOW PROGRESSIVE EMACIATION; ALL TREATMENT INEFFICACIOUS.

Mary E., aged nineteen; Irish; domestic; father and mother healthy; no hereditary tuberculous antecedents. Two brothers and one sister have died of pneumonic phthisis. Patient was well and able to earn her living as domestic till about one year ago (May, 1882), when she "caught cold" and had a hæmorrhage. Since then there has been gradual emaciation and increasing debility, with evening attacks of fever and night sweats, harassing cough, and muco-purulent expectoration. The physical signs all point to extensive excavation at the apices of both lungs; in the left infra-clavicular region the percussion resonance is amphoric, and auscultation gives gurgling rales; on the right side near the axilla there is also hollow breathing and bubbling, with cracked-pot percussion sound.

The above description applies very nearly to the case of Mrs. B., of Madison street, with the exception that the excavation signs are limited to the left side. Mrs. B. has been a consumptive for two years, and her disease has been apyretic; she is American by birth, and has suffered from overwork, abuse (her husband is a brutal sot), and deprivation of food, clothing, and fuel. There is, besides, an inherited tendency to tuberculosis, and (what Dr. H. I. Bowditch considers a most important factor in the ætiology of consumption) for several years after her marriage Mrs. B. lived in a marshy locality in a tenement shaded by trees; there was, moreover, always water in the cellar.*

The question of treatment as applied to the case of these two patients is reduced to great simplicity. The impotence of therapeutics finds here a striking illustration. No remedy can save them; nothing can much prolong their existence. It is the reproach of our profession that the most cheering word in our power to pronounce to such patients is the promise of euthanasia.

Nutrients, hypophosphites, alcoholic stimulants, cod-liver oil, tonics are all ruled out; it is impossible to suggest anything under any of these heads that can be taken in quantities sufficient to arrest the disease or even produce any amelioration whatever. Both have pneumogastric irritability. They must be allowed to eat or drink just what they most crave, and nothing relieves the cough and systemic irritation but morphia. They are taking Magendie's solution, ten drops *pro re nata.*

The night sweats are for the most part persistent, despite the use of atropia, small doses of jaborandi, and other anhidrotic medicaments.

The sputum of both of these patients has been examined for tubercle bacilli, and the presence of these microphytes has been determined by the proper staining fluids, a one-fifth objective being used.†

The medicinal treatment of phthisis comprehends (1) the germicide treatment; (2) the constitutional treatment; (3) the symptom treatment.

1. Since the belief in the bacillus theory of phthisis has become prevalent, there has been a strong and predominant interest in the local antiseptic or germicide treatment of the disease. Internal medication directed against the supposed germ cause is, of course, not to be thought of. Nobody is foolish enough to suppose that the destructive parasitic agent of tuberculosis can be reached through the blood, especially since, as Pollock remarks,‡ the same cause which has cut off a portion of the lung by strangling its vessels has also rendered it impervious to remedies approaching it through the circulation. To treat the lungs antiseptically, then, is to treat them by medicated inhalations. The various steam atomizers and spray apparatuses here find a place with pul-

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* I can here only just allude to the valuable series of papers by Dr. H. I. Bowditch, in the *Atlantic Monthly* for 1869, on Consumption in America. The influence of sub-soil moisture in the genesis of this disease is there clearly shown. Not by any means the least of Dr. Bowditch's valuable contributions to American medicine is his demonstration of the influence of damp, shady localities in favoring and fostering the tuberculous diathesis.

† Since writing the above brief report both of these patients have died.

‡ Lectures on Phthisis, London *Lancet,* 1883.

verizations* of creosote, carbolic acid, eucalyptus, etc. It being inconvenient to use a spray, other means have been proposed for impregnating the air of respiration with antiseptic substances. The old-fashioned inhaling bottle has gone out of use,† but the patient is sometimes made to inhale, and with advantage, the oil of pine made into a mucilage, and added in small quantities to hot water in an ordinary coffee pot. The formula and the process originated, I believe, with the author of the article on Consumption in Reynolds' System of Medicine. The naso-oral respirator is said to fulfil conditions which intermittent spraying or the inhalation of medicated steam can never do. Mackenzie medicates his respirator with a mixture of one part carbolic acid to three of creosote, and claims excellent results from the continuous wearing of the apparatus.‡ Respirators of charcoal, wool, cork, wire, and vulcanite have been described. Many of these are patented in England. The great objection, however, to respirators is their inconvenience and the difficulty which is experienced in getting patients to wear them continuously. Of all the antiseptics ever suggested for consumptives that of Cullimore in the *Medical Press and Circular* seems especially to commend itself. It is sulphurous acid vapor mingled with oil of pine, kaolin, oil of eucalyptus, or benzoic acid. These germicide substances are dropped on a bit of sponge in a wide-mouthed bottle, or inhaled from a pitcher of hot water. Full directions for the preparation and use of these bacillicide compounds are given in the number of *Braithwaite* for January, 1883.§

What benefit are we likely to derive from these medicated inhalations in phthisis? Is there positive clinical evidence in their favor?

Empirically they have long been used, in the belief that they favorably modify local inflammatory processes, disinfect the pulmonary secretions, allay irritation, and promote the cicatrization of cavities. Thirty or more years ago Drs. Minot, Pineo, Kneeland, and others reported in this journal successful results from the use of fumigations and inhalations in phthisis. It is probable that the inhalation treatment was more popular then than now. Kneeland

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* With regard to the remedial value of pulverizations in phthisis, in 1862 there was a long discussion before the Academy of Medicine, Paris, as to whether atomized liquids could penetrate the lungs or even the smaller bronchi. Gratiolet, Sales-Giron, and others claimed that this penetration was possible, others, as Fournié, Delore, maintained that pulverized liquids could not penetrate even the trachea. In cases where Delore caused atomizations of iodine and iodide of potassium to be respired he never found a trace of these medicaments in the urine of the patients who were the subjects of the experimentation. Fournié denies the penetration of pulverized liquids, but admits that of solids inhaled in the form of dust. Walderburg, while owning that a minute quantity of the atomized vapor reaches the air-passages, shows that the far greater part is lost in the pharynx and larynx, and that at the most, after a few minutes' inhalation, a few drops may penetrate the trachea and bronchi. Beaumetz, while summing up results, concludes that these atomizations do no good in phthisis or chronic bronchitis, while excellent in diseases of the pharynx. Dujardin-Beaumetz, Leçons de Clinique Therapeutique, t. ii., p. 526.

† It is nevertheless true that in cases of phthisis with constant teasing cough and profuse muco-purulent expectoration the "old-fashioned inhaler" is often of wonderful remedial efficacy, allaying irritation, and facilitating expectoration. No more useful formula was ever devised than the following, which was given to the profession in the Boston *Medical and Surgical Journal*, in 1857, by Dr. Edward Jenner Coxe:

℞.	Ext. conii	ʒ ij.
	Ext. opii	ʒ i.
	Paregoric	℥ iss.
	Bals. copaiba	℥ ss.
	Spts. picis liquid	ʒ ii.
	Cherry-laurel water	℥ i. M

Sig. Add a teaspoonful of the above to five tablespoonfuls of hot water in the inhaler, and inhale four or five times a day.

‡ Braith. Ret., part 86, page 95.

§ No. 1 is as follows: ℞. Ol. pini Sylvestris, ♏ lxxx., kaolin, gr. xx., acid sulphurosi, ad ℥ i. M. ft. inhalatio. Five to ten drops to be inhaled three times a day.

No. 2. ℞. Ol. eucalyptus, ♏ lxxx., kaolin, sc. i., acid sulphurosi, ℥ i. M. ft. inhalatio.

No. 3. ℞. Acid sulphurosi, ℥ ss., tinct. benz. co., ℥ ss. M. ft. inhalatio.

The essential ingredient in these inhalations is the vapor of sulphurous acid, the oils being especially insists on the importance of what he calls "the surgical treatment" of phthisis.*

It would be presumptuous scepticism to gainsay all the testimony in support of this direct medication. Some benefit is doubtless often derived; the cough is allayed, local congestions arrested, putrefaction of the bronchial secretions prevented, and respiration facilitated. There is, however, no evidence that inhalations, sprays, atomizations, or fumigations have any efficacy in destroying the micro-organisms † whose multiplication and whose ravages are supposed to be such important secondary factors in the disease. I say secondary, for I look upon the constitutional diathesis as of primary importance, as stated in No. 2 of this series. If the soil be not first fit for the bacillus it will not find a habitat there. If it be fit, there is no direct medication known to science which will prevent the development, growth, and multiplication of the parasite. It cannot, then, be too strongly urged that the hygienic and tonic medication constitutes the best germicide medication, and that pure, dry, bracing out-door air is the very best antiseptic.

2. The constitutional treatment of phthisis comprises all those remedial agents which assist nutrition and promote systemic vigor. Chief among these are cod-liver oil, the phosphates and hyphosphites, bitter tonics, alcohol, and arsenic. With regard to cod-liver oil, I have already referred to this incomparable nutritive medicament in the paper on hygienic treatment. With arsenic in phthisis I confess I have no favorable experience to report. Both arsenic and cod-liver oil undoubtedly increase the globular richness of the blood, as Cutler and Bradford have shown by their experimental researches.‡ Beaumetz and Jaccoud place arsenic at the head of reconstituents, giving it in the form of granules of Dioscorides, Fowler's solution, or Bourboule water. The latter can be obtained in Boston, and is an excellent arsenical mineral water for phthisical patients.

As for cod-liver oil, we residents of the coast prefer the home-made preparation from the fresh livers of the codfish. I have never seen any foreign oil so sweet and so well borne as that which is made at our own port. Where the appetite is good, a tablespoonful of this oil is taken after each meal, and generally with no impairment of the digestion. If a tablespoonful cannot be borne, a less quantity may be taken. I have known a little porter or whiskey taken after the oil to cause it to be better assimilated. How much may daily be ingested to advantage? All that the stomach will tolerate, provided the appetite for other food be not destroyed in consequence. I have seen the best results from the oil when large quantities were taken, say four or five ounces a day. In whatever stage of the disease, where cod-liver oil is well supported, amelioration always attends its use. Unfortunately, however, in this stage of softening, and in febrile conditions, it is, as a rule, not borne.

Of the various emulsions in the market, I have had the best success with that of Phillips, which certainly contains the oil globules in a very minute state of division. I have seen this emulsion taken with benefit—and for a long time—by patients with delicate stomachs which revolted against the pure oil.

As regards the hypophosphites and phosphates in phthisis, much has been

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used to disguise the odor and render the acid vapor less irritating. The benzoin combination is the most generally useful.

* Boston *Medical and Surgical Journal*, February 18, 1858.

† Schueller, of Greesfwald, and Rokitansky, of Insbruck, claim successful results in arresting the evolution of tuberculosis by inhalations of benzoate of soda. The latter used a five per cent. solution, causing fifty grammes of the salt daily to be inhaled, and reports fifteen cases. Klebs uses the benzoate both locally by inhalation and internally, giving frequent gramme doses. Guttman claims some relief from cough by this means, but thinks that the inhalation of plain water does as much good. Senator, Fritsche, Wolff, and others have given the benzoate treatment a fair trial, and pronounce it inefficacious, except possibly as a local palliative.

‡ American *Journal of Medical Science*, January, 1878.

written, and there is much conflicting testimony. There is probably nothing specific about them. Alone they have never cured and never can cure consumption. They doubtless have an important subordinate place in the therapeusis of this disease, aiding nutrition, and possibly being appropriated, to some small extent, in supplying the waste of the organic phosphorus compounds.* Certain it is that they are given, and given largely, by almost every physician in the land, whether any definite results are seen from them or not. It is almost a matter of routine to prescribe somebody's syrup of the hypophosphites to every phthisical patient, and if the action of the mineral ingredient seems to be nil, the small quantity of strychnia in these syrups tends to keep up the appetite.

A favorite combination in the treatment of early phthisis, one that is sometimes well borne, and gives good results even in advanced stages, is the following:

℞ Syrup lactophosphate lime, }
Cod-liver oil, } - - - - - - - aa ℥ iv.
M, Dose. A dessertspoonful to be taken frequently through the day.

One patient of mine, Mrs. L., of Merrill street, took this preparation till almost the last period of her sickness, even when there were large excavations in the lungs and the appetite was entirely gone; it seemed to be nutritive and supporting, and the patient fancied that her cough was better under its use.

As for the iron preparations in phthisis, I think that common experience is against their use altogether, despite the anæmia which attends the disease. As a matter of fact they are not well borne, irritate the intestines, and aggravate any local lesion, in the lungs or elsewhere.

Glycerine is often prescribed as a tonic and nutrient, and taken in moderate doses it seems often to do good. Given with whiskey it is well supported, and relieves the cough. Alcoholic stimulants have an important place in the treatment of phthisis, especially the bitter ales, which I have repeatedly prescribed, and with marked advantage.

3. SYMPTOM TREATMENT. — (*a*) *The Cough.* The cough is an expression of the irritation of the respiratory passages. There are foreign bodies (tubercles) in the pulmonary parenchyma, there is a morbid secretion in the bronchi, the pulmonary and bronchial mucous membrane is in a state of erethism from hyperæmia. These three factors of cough need to be taken into account in instituting the treatment. The first and last factors are constant, the second is not so constant. The irritation (from whatever source) is referred to the pharyngeal plexus of nerves—pharyngeal branches of the pneumogastric and spinal accessory, glosso-pharyngeal, and sympathetic. The intimate association, by communicating fibres and anastomoses, of this plexus with the nerves which innervate all parts of the respiratory apparatus, motor and sensory, and the common origin of the principle of these nerves in the medulla oblongata, is a striking fact in connection with the phenomenon of cough.† The sensation of titillation

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* The phosphate of lime, as a nutrient and cell-producing agent of great power, was first brought to the notice of the profession by articles in the London *Lancet* for 1851. Dr. Stone, of New Orleans, made trials of this salt, and recommended it to American practitioners. It is well known that the salts of phosphoric acid are essential to the formation of azotic compounds, and in regard to the phosphate of lime it was shown that it increases the production of cells; the tribasic phosphates play an important part in the growth and development of plants, and are found in all seeds; in all chronic diseases of the human subject attended with emaciation, phosphates are excreted in excess. From theoretical considerations, then, these salts would seem to be indicated in phthisis.

The following combination, of which a wine-glassfull may be taken after meals, is a favorite one in the Hopital St. Antoine (Lectures on Phthisis, by D. Beaumetz): ℞ Phosphate of soda, six grammes; phosphate of potash, three grammes; wine, two hundred grammes; syrup aurantii corticis, sixty grammes. M. Vide Ira Warren in Boston *Medical and Surgical Journal*, 1852, first vol., p. 201

† Gueneau de Mussy, Clinique Médicale, c. i., p. 615, has dwelt largely on this anatomical and physiological consensus.

which provokes cough is comparable to the sensation of thirst; both of which are the local expression of an imperative organic demand.

The cough of phthisis is the symptom the most persistent, the most annoying, the one for which the patient most imperatively demands relief. "O, if you could cure this cough I should be well!" is a frequent exclamation. The reply is sometimes forced upon us, "If you could be rid of the tubercles in your lungs, you would be rid of your cough." Here, then, is the important fact, that in order to cure the cough we must remove the cause of the cough, the tuberculous irritation, which is also provocative of the hyperæmia and the morbid secretion. For this we must depend on the hygienic régime and on tonic medication. The following case from my note-book is to the point:—

Patient, Eliza C., aged twenty-one; Irish; a servant girl in my family, 1867. Parents healthy people; one sister died of consumption in 1864. In February, Eliza, previously in good health, took cold, and a severe cough set in, with fever and night sweats. The physical signs of a tuberculous deposit in the tops of both lungs were manifest. She persisted in performing her duties as house-maid. The cough was almost incessant, and for the most of the time dry; now and then it was attended by hæmorrhage. There was a marked vespertine febrile movement. This cough was a sore annoyance to the poor girl; she was unwilling to take cod-liver oil (which, in fact, was not supported), tonics did not suit, but she took quantities of squills, wild cherry bark, senega, in decoctions, medicated with paregoric, syrup of poppies, syrup of morphia, etc., which gave slight palliation. An occasional full dose of antimonial wine seemed to do the most good, particularly if followed by nausea; it promoted secretion, and thus diminished hyperæmia. I insisted on Eliza going to her home in the country, to rest from all work, to be much in the open air. She did so, and during the summer months recovered in great measure her flesh, strength, and appetite, the cough and night sweats for a time disappeared, only, however, to return with a reawakening of the disease (which speedily became fatal) in the autumn.

The only means by which we can directly modify or alleviate the cough is by remedies which diminish hyperæmia and irritability. We may lessen the catarrhal inflammation by our counter-irritants and expectorants. As for counter-irritation, I have rarely seen much benefit in phthisis from the ordinary means—painting with tincture of iodine, frictions with croton oil liniment till the appearance of the eruption, cantharidal vesication, etc.* Theoretically, revulsion might be expected to do good; practically, we are continually disappointed in it.

As for expectorants, the term is an arbitrary one, and may include a great variety of remedies. Whatever influence expectorants have on the respiratory apparatus is limited to the bronchial mucous membrane; here even they have a very restricted action, and, as Stillé observes, this action is addressed almost exclusively to that condition in which the bronchial secretion is excessive and morbid.† Simple congestion is sometimes relieved by a diffusible stimulant, such as whiskey, which acts by exciting the whole vascular system, including that which is especially affected.‡ A favorite cough medicine is composed of whiskey and glycerine, which is prescribed in all stages and conditions of the disease. An ounce of glycerine is mixed with five or six ounces of whiskey, and taken freely during the day, in small quantities. The glycerine has special virtues of its own, being nutrient and tonic; it is a favorite remedy with Jaccoud, who regards it as scarcely inferior to cod-liver oil. It has also demulcent properties, soothing the dry and irritable throat. The "rye and rock" which is sold by our grocers and apothecaries is often made of inferior whiskey, and is not comparable to the compound with glycerine.

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* This is also the experience of Dr. J. Hughes Bennet. Vide article on Phthisis in Reynolds' System of Medicine.

† Therapeutics and Materia Medica, vol. ii., p. 493.

‡ Ibid.

In cases where the bronchial secretion is excessive, remedies are indicated which help restore tone to the lax vessels, and which are directly stimulant to the morbid mucous membrane. Here medicinal inhalations are indicated (tar, balsams, turpentine, creosote, etc.), and certain remedies which are eliminated by the air passages, and have an alterative effect. Creosote, in doses of from half a drop to two drops with alcohol and some pectoral syrup, is a favorite medicament with foreign practitioners. I confess that I have never seen any marked benefit from its use. The simple or compound tincture of benzoin has been of much greater utility. Tar (as tar water, or syrup of tar), ammoniacum, copaiba, squills, and senega are much in use in these chronic stages with profuse secretion, and are all, probably, more or less useful. Where the secretion is thick and scanty, ipecacuanha and alkalies, especially chloride of ammonium, have certainly considerable efficacy. Where the cough is perfectly dry it is of no use to give expectorants; demulcents and sedatives are here indicated, and always throughout the disease we are obliged to resort to these latter medicaments. Demulcents probably aid principally if not entirely by their topical effect, while sedatives (the entire group of narcotics) and anæsthetics allay hyperæsthesia of the terminal sensory nerve filaments in the lungs, bronchi, and pharynx, and thus palliate the cough. The type of these medicines of course is opium, and sooner or later some form of this medicament becomes our chief reliance. Syrups of morphia or codeia (codeia, according to Bartholow, is far preferable, and is par excellence, the sedative of the pneumogastric) are the most eligible forms in which to give the opiate. Momentary inhalations of chloroform and alcohol (one part to three) will sometimes relieve a stubborn cough, and a few drops of chloroform in water taken during a paroxysm gives palliation. When I was hospital interne in 1864 I used often to see Collis Brown's chlorodyne prescribed as an adjuvant to cough medicines, and I am now in the habit of ordering fifteen drops of Park Davis & Co.'s chloranodyne where there is indication to soothe a harassing cough and procure sleep. (The formula of chloranodyne is well-known to the profession.)

I do not think that there is in wild cherry bark enough hydrocyanic acid to afford any perceptible sedation to the irritable broncho-pulmonary mucous membrane (at least in any ordinary dose).

(*b*) *The Night Sweats.* The pathogeny of the night sweats of phthisis is ill understood. Profuse nocturnal sweating is always an index of debility, but it does not accompany all states of debility; it bears, however, a marked relation to exhausted conditions of the respiratory system. When the respiratory centre is exhausted the excretory function of the sudoriparous glans is exalted, the skin being to a certain extent vicarious with the lungs. In disease of the lungs with limitation of the field of hæmatosis, there is increased elimination by the skin, and when, as in deep sleep, the pulmonary excretion is at its minimum, hidrosis is at its maximum, the vaso-secretory nerves being stimulated to action by an excess of carbonic acid in the blood.*

The night sweats of phthisis are, however, neither physiological nor salutary. If it were proper to credit nature with any good intention, the fact is patent that elimination is soon overdone, the blood is rapidly impoverished of its water and salts, chlorides, phosphates, and sulphates. It is, moreover, susceptible of daily proof that arrest of these sweats is attended with benefit to the patient; appetite and strength at once improve. So marked is this gain that Fothergill considers that the most important indication in the treatment of early phthisis is to stop the night sweats.

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* This is substanially Fothergill's explanation. Vide Braithwaite's Ret., part 78, page 74.

Of all the medicinal means for checking hidrosis in phthisis probably the most effectual is belladonna or its alkaloid, atropia. Atropia is more reliable than belladonna, although one half grain of the extract of the latter, or ten drops of the tincture, at bed-time is often efficacious. Atropia is a special stimulant to the respiratory centre, and proves beneficial in exhausted states of that centre, and besides making the necessity for hidrosis less it locks up the sudoriparous glands, being an arrester of secretion.

A convenient way to administer atropine for night sweats is to rub up a grain with one hundred grains of white sugar, and divide into one hundred powders. Of these one may be given at five o'clock P.M., and another about bed-time. This will generally arrest the sweats. One or two drops may be given at bed-time of the British solution, enough being administered to obtain the physiological effects of the drug, among the most noticeable of which is dryness of the throat. J. Milner Fothergill has an excellent pill which alleviates both cough and night sweats. It consists of one-fourth grain morphia, one fortieth grain atropia, one grain of capsicum, and three grains of pil. aloes and myrrh.

Other means for arresting the sweats are in vogue, such as sponging the patient all over with cold vinegar (to which some add capsicum); the use of a powder, which is dusted over the whole body at bed-time, consisting of salicylic acid, one part to six or eight of lycopodium and starch;* sponging with hot water at night; causing the patient to be aroused before the time of sweating, giving him a light lunch, and bathing hands and face; two to five grains of quinine at bed-time; a pill of oxide of zinc three times a day, etc. Dr. Murrell has recently introduced picrotoxine to the profession as a valuable anhidrotic, one gramme to 240 grammes water; dose one to four minims three times a day, last dose at bed-time. He claims remarkable success with this remedy. It does not make the skin too dry, while atropine often seems to parch it up. M. Charteris proposes hypophosphite of lime, of which he recommends three grains three times a day. He claims excellent results. Lastly, we have seen small doses of jarborandi recommended on the principle of *similia similibus.*

In my own experience the atropine treatment with night feeding and sponging has been the most successful.

(*c*) *The Hœmoptysis.* The hæmoptysis in phthisis results either from congestion around a tuberculous deposit or from the rupture of a blood-vessel, or (according to Damaschino) small aneurisms in a cavity. The most valuable means for combating this always alarming accident are subcutaneous injections of ergotine, two grammes to thirty grammes of water. Squibb's fluid extract of ergot may be given in doses of ten drops every hour, or even every half-hour. Dobell's solution, which consists of an ounce of compound infusion of roses, to which is added twenty drops fluid extract ergot, twenty of tincture of digitalis, ten grains gallic acid, fifty of sulphate of magnesia, and ten drops dilute sulphuric acid—the whole to be taken at one dose, and repeated every three hours till the hæmorrhage ceases—is a deservedly popular prescription, combining the ordinary hæmostatic remedies with a cardiac sedative, digitalis.

(*d*) The diarrhœa of phthisis is often very stubborn, depending as it does generally on intestinal tuberculosis and ulceration. It requires a rigid dietary regimen of milk, flour gruel, aided, it may be, by pancreatic emulsion, raw meat, &c., with opium in sufficient doses. The best results, in my opinion, attend the combination of opium with bismuth, one grain of the former to ten, or even twenty of the latter.

(*e*) The fever of phthisis, which is generally of a suppurative, remittent, or intermittent type, is little amenable to aconite, veratrum, and other popular febrifuge medicaments. If I may again refer to personal experience, I would say that I have had no success in treating this fever with the large doses of quinine and salicylic acid which have been advised, while I have certainly been more successful with cold sponging and the administration of mineral acids. The euchlorine mixture, recommended by Watson, has at times been of marked service.

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* New York *Medical Record*, vol. xvii., p. 287.

CLINICAL LECTURE.

A Lecture on Failure of Sexual Development, delivered at the College of Physicians and Surgeons, New York. By Prof. T. Galliard Thomas, M.D.*

Gentlemen: The little girl whom I present to you to-day is a clinical lecture in herself. Her name is Rachel W., and her parents are Polish Jews. She is eighteen years of age, and yet, to look at her, you would never imagine that she was anything more than a child of twelve. Physically she is, indeed, a girl of twelve; but chronologically she is a young woman of eighteen. The history, as derived from her mother and herself, is a very brief one. She is all the time sick, she says; complaining of weakness and more or less cough, and of pains in the head, back, chest, limbs, and lower part of the abdomen. In addition, her mother informs me that she has never in her life shown any sign of menstruation. It is true that, in answer to a leading question, she says that at a certain part of every month the pains mentioned are aggravated; but this statement must, I think, be received with some degree of allowance. When the girl speaks you cannot but be struck by the peculiar character of her voice. It is that of a boy of eighteen, whose voice has just undergone the change incident to the age of puberty, and is certainly a much more man-like voice than that of her mother.

These, then, are the facts of the case. The inference which we draw from them is, that that remarkable change which ordinarily takes place at puberty has not in this instance occurred; a conclusion which is confirmed by the physical examination, of which I will presently speak to you. What the special reason for the non-appearance of this change is we cannot say, though the ganglionic nervous system is probably at fault. At the age of puberty, as you know, the uterus in ordinary cases rapidly grows to three times its former size, and the ovaries also become much more fully developed. Ovulation then takes place, and when menstruation has once commenced, the uterus becomes still further enlarged. In a certain number of cases, such as you will meet from time to time in your practice, these changes do not take place. In the present instance the condition of the patient approaches that of cretinism, so commonly met with in some parts of Switzerland, except in regard to mental capacity, as this girl is perfectly intelligent. If nothing is done in the way of treatment, and possibly in spite of this, should it be attempted, she will be a little old woman at forty, no larger than she is now. Here there has been an abnormal development, so that the voice is that of a man. The mammæ are also like those of a man, and her form entirely lacks that rotundity and size which we ought to find at her age. The condition of this patient is, indeed, that of a woman from whom the ovaries had been removed before the age of puberty. There are, however, a few rare exceptions, in which the individual while having the vagina, uterus, and ovaries perfectly developed, is yet altogether like a man in other respects.

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* Reported for the *Boston Medical and Surgical Journal*.

I will now show you upon the blackboard what the vaginal examination revealed here. I found that the hymen offered no obstruction whatever, as one would naturally expect in such a case, and, passing my finger up the small vagina, I found at its upper extremity an acorn-like uterus, such as I now depict for you. By means of conjoined manipulation I then endeavored to determine the size and position of the ovaries, but found this quite impossible. Nothing is to be inferred from this, however, as it is often the case that the ovaries when of normal size, and even when somewhat enlarged, cannot be found at all by the examiner. You should always receive with considerable allowance the statement of any one who says he can map out the ovaries with perfect ease. He may imagine that he does this; but the chances are that he is quite mistaken about the matter. In certain favorable subjects the ovaries, when of normal size, can be thus mapped out; but in a very large number of cases this is utterly impossible. Here, then, we have an infantile, undeveloped uterus, with probable the same condition of the ovaries.

What is the prognosis in a case like this? Some fifteen or twenty years ago the treatment of such cases received a great deal of attention, and the gynæcologists reported quite a number of successful results. I myself was one of those who did so, and who felt sanguine of the same good results in other cases. Since then, I must confess, I have lost a good deal of faith in regard to the matter, for I have found by experience that it is only in a very limited number of cases that treatment is at all satisfactory. While, however, I should be by no means hopeful in the case of this girl, I certainly think that she ought to have the benefit of a special course of treatment. It would be easy enough to say that as nature had failed to do her part, there would be no use in trying to accomplish anything here. But instead of taking such a hopeless view of the case, which would condemn the girl to a life with very little happiness in it, I would advise that at all events the attempts should be made to spur on nature to carry on the development which for some reason she has hitherto neglected in this case. If at the end of three months of persevering and systematic effort no progress had been made, I should then think it useless to go on with any further treatment.

I shall, therefore, endeavor to persuade the mother to let her daughter enter my service at the Woman's Hospital, and I will now give you an outline of the plan of treatment that will be adopted in case she gives her consent. In the first place you will understand that if by any means, by directing nutrition to the uterus, we can enlarge the organ, a considerable amount of good will be accomplished; and if, in addition, the ovaries can be excited by reflex irritation, there will be some ground of hope for a successful result. In my private hospital there is at present a young girl of seventeen who has improved in the most wonderful manner under treatment, and in whom the menstrual flow can now be brought on regularly every month. The plan of treatment that I pursue in such cases is as follows: I begin by inserting into the uterine canal a very small sea-tangle tent, which I keep in position by tamponing the vagina. This is to be removed in twenty-four hours, and in two or three days a slightly larger tent is put in. After a time two or three small tents may be used together, and in this way we can really make the uterus grow by producing an afflux of blood to the organ. It is, to be sure, a very clumsy way of accomplishing this; but as it is the only way that I know of, I am content to practise it. As time goes on we can use larger tents, and if we really succeed in increasing the size of the uterus somewhat, a glass stem should be introduced into the cavity and supported by a cup pessary. This stem should be worn both day and night, but should be taken out once in every three or four days. At the same time means should be directed to the improvement of the general system. Highly nutritious food is of the first importance, and the patient should have not three, but six meals a day. This is what the young lady of whom I have just spoken is getting. That is, she has her three regular meals, and, in addition, a tablespoonful of malt extract in a tumbler of milk midway between breakfast and luncheon, between lunchoen and dinner, and when she goes to bed at night. Such patients rarely have an appetite, and they must really be forced to eat, although not exactly in the way in which fowls in course of artificial fattening in Europe are forced. Some of you may have seen at the *Jardin d' Acclimatation* in Paris the ingenious system of M. Martin, by which fowls, in consequence of forced alimentation given regularly every three hours, are doubled in weight in eighteen days; while in a barn-yard they might not fatten in six months. In the matter of feeding such patients it is almost always necessary to combat the will, and especially in regard to the matter of milk, which at first they all say that they cannot possibly take. Girls of this class are always anæmic, and require a large amount of nourishment. Look at the face of the one now before you, and see how pallid it is. Very likely she takes a cup of tea and some bread for her breakfast, some salt meat or fish with potatoes for her dinner, and tea and bread again at night. If she should enter the hospital, special attention would be paid to her diet, and I think it would be found that she would gain at the rate of two or two and a-half pounds a week. But, besides, it would be necessary to look after the condition of her skin, which now feels more like iced parchment than anything else that I can think of The impression which it gives one is precisely that of the skin of a man suffering from cirrhosis of the liver. To bring about a healthy condition of the cutaneous surface she would be given three Turkish baths each week, and on the days when she did not have a bath massage would be thoroughly applied by a professional manipulator. In this way the entire skin would be stimulated to action, and passive exercise given to every muscle of the body. In addition, she would be required to exercise with gymnastic apparatus every day after the bath or the massage. In private practice it is, of course, not so easy to carry out such a course of treatment as in a hospital; but it should be imitated as far as possible, and if the mother of the patient is intelligent, all the principal difficulties in the way can be overcome. What, then, have we done so far? In the first place we have improved the blood state of the patient; secondly, we have improved the cutaneous circulation and given tone to the nervous system; and, thirdly, we have to some extent developed the uterus.

We now begin to add something to the treatment, and that is, electricity. The galvanic battery, I think, is the best for the purpose, and a cup electrode should be placed over the cervix uteri while the other electrode is carried to the nape of the neck, and then down along the spine. In the same way an electrode should be placed over the ovaries in succession, so as to stimulate these organs also by direct irritation. It may be that in the course of three months after the commencement of the treatment an erratic hæmorrhage from the uterus will come on, and this is to be regarded as a most encouraging symptom, for it is almost sure to be followed by others. In my private case, as I said, I can now bring on the flow regularly every twenty-eight days, and the young lady is so greatly improved in every way that she and her friends are abundantly satisfied with the result, and she will now soon leave the hospital. She certainly looks like an entirely different person from what she did before the treatment was undertaken. For the present, however, she will each month come to my office three days before the time for the menstrual flow, when by means of a Peaslee uterine sound (which I prefer because it has a very blunt point), covered with rubber, with the exception of the last two or three inches, a galvanic current will be applied to the fundus. The ovaries will also be stimulated by the same agent On the following day, and again on the day when the flow is expected, this application will be repeated. In one case the procedure resulted in pelvic cellulitis ; but as this is the only instance out of a very large number of patients in whom I have used this course of treatment, I think there is very little danger of this occurring.

It is very evident that something ought to be done for this girl. It is very easy for the physician to screen his conscience under the shelter of a prescription in such cases ; but in every instance of the kind an honest and persevering effort ought certainly to be attempted. If at the end of three months, however, there should not be any indication of ultimate success, it would scarcely be worth while, as I have intimated, to carry the trial any further. My private case, to which I have so often alluded, has proved a brilliant success ; but this, you must understand, is the exception rather than the rule. The first case which attracted special attention to this subject in this city was that of a young lady in high life who, in addition to her other troubles, suffered from epilepsy. A well-known gynæcologist undertook her case and succeeded in bringing on the menses ; while the epilepsy, greatly to the satisfaction of the patient and her friends, almost entirely disappeared in consequence. Of course, the success achieved in this instance induced many other physicians to adopt the plan of treatment in similar cases. The reason that I do not have the same confidence in it that I did once is, that while in a few cases the method is successful, there are a great many others in which the result is negative. To illustrate how changes take place in medical opinion, I may mention that not longer than ten or twelve years ago sterility was almost universally treated in this city by cutting open the neck of the uterus. You all know the history of the operation which was introduced by Sir James Y. Simpson, of Edinburgh. In only one case, perhaps, out of five hundred, it was successful, and so it gradually fell into disuse, until it is now almost entirely abandoned. It has, indeed, been given up more than I think it really ought to be, as there are a certain number of cases in which it seems to be legitimately called for. This is an important case, as it is a type of a class that you will meet with occasionally in practice, and I have dwelt upon it at considerable length for the reason that I may not have the opportunity of presenting another similar one during the course, as such cases are by no means very common.

If the patient will go in the Woman's Hospital she will be given the benefit of a systematic course of treatment such as I have described, and I will promise to report the progress of the case to you at least once a month while she remains. It is very doubtful, however, whether she will consent to enter the hospital, as persons of her race are apt to be strongly prejudiced against such institutions, and, indeed, against accepting charity of any kind. While speaking of her race, I may mention that it is very rare to find the condition here present in Jewesses, among whom the age of puberty, which, as you know, varies in different races and nations, occurs ordinarily at a very early period.

ORIGINAL CORRESPONDENCE.

[NOTE.—In the November JOURNAL a short article, clipped from the *New York Times*, by malposition, appeared in the editorial department. Dr. Jeffries sends the following note, with a correct statement of his views on this interesting subject. Most of this communication of Dr. Jeffries appeared (with many errors) in the *Nautical Gazette*, and is published with much pleasure.—ED.]

151 CHESTNUT STREET, BOSTON, MASS,
December 10, 1883.

DR. GAILLARD: Dear Doctor, on page 593 of your November number I find a paragraph headed "Color Blindness," which appeared in the *New York Times*. The author is a color-blind gentleman. The article is so far from the facts, and shows such want of knowledge of the subject at issue, that I was afraid the *Times* would not publish my reply to it sent them. This reply was published, however, by another New York paper, and I enclose it corrected. I think that on reading my reply you will feel that this is but a courtesy to a professional brother.

Yours very truly,
B. JOY JEFFRIES.

HOW THE COLOR-BLIND SEE COLORS.—A day or two after the adjournment of the National Board of Steam Navigation, an editorial writer in the *Times*, who is actually color-blind, published an article taking issue with the remarks of Dr. Jeffries, and advocating the changing of the signal lights—red and green—now in use by vessels of all nations to blue and white. Thus far the *Times* has not published Dr. Jeffries' reply, and as we have a copy, we publish it.

MESSRS. EDITORS: In my address before the National Board of Steam Navigation at the Metropolitan Hotel, on last Wednesday evening, October 24, I explained and illustrated some well-known facts in relation to color blindness and signal lights, which, if the writer of the article "Color Blindness," in your October 26 issue, had heard and seen he would not have criticized as he did. The press was right in reporting me as saying that the color-blind see red and green as gray. As your writer says that this "is a great mistake," I must ask you to allow me an opportunity to show your readers that I am scientifically and practically correct. It is, in truth, a fact as well recognized now as color blindness itself. We can of course gain no knowledge of how colors affect the color-blind by asking him the names of the colors. We can, however, ascertain what the effect is by asking him, to place together what produces the same sensation on his eye or brain. To this they respond, as did the case I used for illustration, by placing together reds, greens and grays. Or, if asked to select green, they will pick out gray, &c.

This, therefore, shows that red and green do not give them any sensation of color, since a mixture of black and white, namely gray, corresponds to them. Gray in its shades from black to white is simply so much light and dark. We speak of it as a color in ordinary language, quite forgetting that it is not in the spectrum. A person totally color blind is one to whom the three primary colors—red, green and violet—give no feeling other than light and dark. The color-blind judge the colors they are blind to simply by their intensity; hence, what has the same degree of brightness, viz., gray, resembles them on my color chart, now introduced into the Boston public schools for the primary education of the normal color sense, there is a row of grays in fine shades. A little color-blind boy the other day in my office, seeing the chart row of grays, said: "Oh, mama, what beautiful reds!" This at once revealed to me what I had not had occasion to ascertain namely, that he was color blind. What pleased his eye, upon which a similar row of the reds have the same effect, was the gradation in intensity to which the color blind became very sensitive. Your writer says: "Precisely how colors appear to the color blind it is of course impossible for any one to know, as impossible as it is for a person born deaf to understand what the blast of a trumpet resembles." Our present methods of testing had convinced experts as to the color blind feeling their defective colors as gray, but this is now absolutely proved by the very best observers testing the cases of monocular color blindness that have been discovered the last few years. Such persons are dumb-founded by the characteristic mistakes their color-blind eye causes them to make, which mistakes their normal eyes see as we do. Hence these persons can tell us just how the colors appear to their color-blind eye. The careful study and analysis of such cases already recorded prove that we are correct in our assumption as to how colors affect those with defective chromatic sense. We must remember that the defect varies in degree.

The color-blind cannot see color where it does not exist, as in an engraving, which is simply light and shade. Of course, if he is red and green blind, the shaded lines will produce the same effect on his eye as red and green lines, the shaded lines on the engraving cannot have the same effect on his eye as blue lines, unless he is violet blind. In such (very rare) cases, blue, gray and yellow look alike. Shaded lines in black and white cannot give color to a color-blind any more than to the normal eye; they can and do resemble what we feel as color lines, and hence it proves that colored lines or colors look to them gray or grayish in proportion to the amount of their defect, and in prōportion to the depth of the pigment. Your writer says: "The whole subject is as yet very imperfectly understood even by the best physicians." This is in one sense very true—physicians do not know anything about color blindness, and have no occasion to. It must also be granted that very few specialists are any better informed, since a very few have made it a study. It must not be gathered, however, that the subject has not been studied. Some ophthalmic surgeons and many of the highest physicians and physiologists have, and are giving great attention to the study of color sense. In proof I wish to refer to the forty solid pages of bibliography in the last edition of my manual on "Color Blindness, its Dangers and its Detection," now adopted by the United States Government, the Pennsylvania Railroad, and the Boston School Board. Your writer says: "The one thing that is well established is that a color-blind person cannot distinguish between red and green, and hence that red and green should not be used as signals on land or sea." After years of labor to prove the first part of the statement, it is a relief to find it finally admitted. It is, however, rather disheartening after all that has been said and shown by those at work in these studies, both here and abroad, as well as the practical results on the sea and the railroads, to find in your columns an editorial suggestion that red and green should be given up, and white and blue substituted. This is a little slip which I must give your readers the credit of having mentally corrected. It shows me, however, that I must, when discussing the subject publicly, still show practically, as I did the Board of Navigation, the uselessness of attempting to change the signals by other colors, or by form. I devote a special chapter to this in my Manual, to which I would call your attention, as also to the published report of my paper before the Massachusetts Institute of Technology, 30th last March. Your writer says: "Most of the men who are now properly kept out of the navy and merchant service, because they cannot tell red from green, could at once distinguish a blue light from a white one, and in view of the fact it would be wise to substitute white and blue for red and green in flags and signal lights." Now about four per cent. of males are more or less color blind whilst only one-fourth of one per cent. of females are thus affected. For the benefit of this four per cent. of males, it would be rather hard on the other ninety-six per cent. to take away their last means of instantly distinguishing safety and danger, port and starboard. In a word, we are now using two of the three primary colors, red and green. It is simply physically impossible to use the other violet, or blue, as has been so frequently and practically illustrated. One would gather from what your writer says that the color blind are kept out of the merchant service; this, unfortunately, is not the case; the only law existing is that United States pilots must be tested for color blindness. State pilots may be as blind to color as the one who mistook a red for a black buoy, and lost the City of Austin on Fernandina bar. No test of eyesight is required of even United States pilots, and no test of any kind as to form or color perception of masters, mates or sailors. It was only by the utmost efforts that I induced some test of pilots, and it required still more effort to prevent the regulations now admitted as necessary from being rescinded in favor of the four per cent. defective.

Of course, international regulations and standards, etc., are requisite for the ocean. Such can only be established by an International Commission, a bill for which has twice been reported to Congress by the committee on naval affairs. Other countries await our action. Public opinion can alone force Congress to act as recommended by this committee and the heads of the departments, and so many scientific and other bodies here and abroad, and finally by the National Board of Steam Navigation.

B. JOY JEFFRIES.

PROCEEDINGS OF SOCIETIES.

WESTERN TEXAS MEDICAL ASSOCIATION.

SEWERAGE AND DRAINAGE.

The regular monthly meeting of the Western Texas Medical Association, which took place at the County Court room, was perhaps the most important session it has ever held, and was attended by a large number of that body.

Dr. T. R. Chew, the president, called the association to order, when Dr. Graham Watts, the newly-elected secretary, read the minutes of the last meeting.

Dr. J. P. Hervey, who has a diploma from the Medical University of Pennsylvania, was elected a member.

Reports of regular committees having been called for by the President, Dr. Tyner, Chairman of the Committee on Sewerage, read the following report:

MR. CHAIRMAN AND GENTLEMEN OF THE WESTERN TEXAS MEDICAL ASSOCIATION: In making our report on sewerage, and recommending the construction of same in San Antonio, we do so, believing it has reached a size and importance imperatively demanding a change in the disposal of its sewerage. The primitive means of its disposal answered while it was a village, but such is inadequate now to a population of 30,000, and cannot continue without disastrous results, which will not only affect its health but its commercial prosperity as well. But this point needs no argument, as the lamentable history of hundreds of cities which have been devastated by epidemic disease has so forcibly demonstrated.

There is no longer any question as to the vital importance of removing filth before decomposition can take place. The custom of storing in privy vaults and cesspools must be abandoned. Science and experience has proven beyond the question of a doubt that the public health is seriously affected through drinking water polluted by refuse from those vaults, and epidemic diseases even are traceable directly to this source.

As to the best means of removal, we deem it unnecessary to speak of the "dry earth" and "Pole" systems, but will begin with the "water carriage," or sewerage. There are two principal systems: the "combined," which carries off excreta, waste water, slops and storm water; the "separate" system, which disposes only of waste water, human excreta, or, in a word, all liquid sewerage. The former we regard as unsafe and impracticable. The expense in construction is very much greater, and requires a proportionately longer time to complete. It does not only fail to meet sanitary requirements, but is detrimental thereto, as we will show further on. As to storm water, it is never, or very rarely, sufficient here to interfere with travel, and in our judgment should not go into sewers, but with proper surface drainage will be a benefit rather than otherwise. The amount of sewage compared with that of storm water during violent storms is exceedingly small; as this water subsides silt is deposited in the bottom, which obstructs the flow of sewage, and decomposition is the natural result. It is now a well-established fact that bacteria, and not "sewer gas," are the result of this decomposition, and that zymotic diseases are produced by these low organisms. It is also well known that the most favorable conditions for the growth of these organisms are moisture, heat, darkness and ammonia, all of which conditions are abundantly supplied in these sewer pipes. Nor is the flushing from rains, even in our Northern States and England, where they are infinitely more frequent than here, sufficient to purify and render them conducive to health. In fact, every scheme of the most skilled engineers has failed, and they are now universally regarded as radically wrong, both in theory and practice.

In the "separate" system all those difficulties have been surmounted. It is simple, efficient and comparatively inexpensive. The principles upon which this system is based are not new. In 1849 Mr. Phillips, Engineer to the Metropolitan Commission of Sewers, London, strongly recommended it, and, although not adopted, it commended itself to many able engineers and sanitarians who continued to advocate it.

The fatal defect was a want of some reliable means of periodic flushing, which has been overcome by the automatic flush tank of Mr. Roger Fields. This simple device has proven itself, both in this country and in England, entirely reliable and effective. In the official report of the National Board of Health on the Memphis sewers, it is said: "The flush tank is one of the essential features of the combination; indeed, without it the use of any sewer, not receiving storm water, would be extremely unsafe."

It is not necessary to go into a full description, and will only give the leading features.

The pipes are of the following sizes: Mains, 15 to 20 inches; branches, 6 to 8 inches, and house connections, 4 inches. The flush tanks are placed at the head of each branch sewer. The syphon, which discharges automatically the tank, consists of a cast-iron discharge pipe, fitted into a larger pipe of the same material, and rising within the centre of the tank. In operation the tank is slowly filled by a small stream of water from the supply pipe, so graduated as to fill the tank once in twenty-four hours, or as often as may be found necessary to flush the sewers.

As soon as the tank is filled and the water begins to drip over the outlet, the syphon is brought into operation and the whole contents of the tank instantly discharged, and the water goes rushing down the sewer, sweeping any deposits which may have accumulated since the last flushing. It was maintained by many that the syphon arrangement would become choked with the deposit from the muddy water, and would be troublesome and expensive to keep clean, but such has been proven erroneous. In any event, however, it could not be offered as an objection here, as the water supply is clear and free from silt. As to engineering and construction, but few, if any, difficulties will be encountered. Construction will be much less expensive than in Memphis, as the work was greatly impeded by sub-soil water, for which drain tiles were employed in the same ditch, and in many instances these tiles or pipes had to be laid ahead of the sewers, which will not be needed here at all.

In a letter which we received from Dr. Thornton, of Memphis, President of the Board of Health, and who has had charge of the health service during the entire process of sewer construction and for the two years since its completion, says: "This system of sewerage is answering the purpose for which it was designed most admirably." In his fourth annual report, the aggregate cost of the thirty-five miles of sewers is $267,146. The obstructions thus far for the two years have been altogether in the 4 and 6-inch laterals, seventy-five in number. The entire cost of removing these obstructions for the last two years was $1,012. The mains have never been entirely obstructed, but have had more or less accumulations in them, requiring them to be cleaned with ball and rope, on six occasions, at points where the gradients are very light.

As a means for the speedy removal of all liquid garbage, including human excreta, this system is the most effective and perfect now known, and as a sanitary measure it accomplishes more than any other can. It does away with the deadly privy vault and cesspool, and insures pure water, the one thing alone which will more than pay for the cost. It is more perfectly adapted for the purposes of sanitation than any means yet devised. It discharges everything at the point of outlet quickly, avoiding any possible danger of decomposition. The pipes are so small, and the surface so smooth and so nearly filled by the flow of the sewage, that there is but little exposed surface on which bacteria can germinate, and but little room for stirring up foul air, which dangers are further reduced by the daily flushing with pure water. It is correct in theory, and nearly three years' test has proven it eminently so in practice.

In a letter of July 30th, from Col. George Waring, consulting engineer for sanitary and agricultural drainage, Newport, R. I., he writes: "The system (separate) has been applied completely, or in part, at Memphis, Omaha, Kalamazoo, Little Rock, Birmingham, Alabama. Keene, N. H., Pittsfield, Mass., Norfolk, Va., etc. It is about being introduced on an extensive trial scale in Paris, and negotiations are well advanced for other European cities. Thus far I have heard only favorable opinions expressed from every quarter, and in those cities where work has thus far only been partially completed, steps are now being taken for extending the same system. The city engineer of Omaha, being consulted by the authorities of Salt Lake City, recommended it unqualifiedly. The whole city council of Dubuque, except one member, visited Memphis and made a critical examination, and have unanimously adopted the system for Dubuque.

We would give much additional authority, including the ablest engineers and sanitarians of England, in support of this system. However, if any of the members or others interested wish to investigate the subject more fully, we will with pleasure furnish all the data necessary.

In closing, it is scarcely worth while, after what has been said, to say we recommend unhesitatingly a thorough and complete system for San Antonio, constructed in accordance with the Memphis system, to be under the absolute control of the city, all house connections to be made according to ordinances, and under the supervision of the city engineer. In our judgment, the material interest of San Antonio will be greatly benefited by the work, so much so as to make the cost an insignificant consideration. Commerce is dependent upon health. One or two epidemics and the depreciation of property, to say nothing of other losses, would pay the cost of sewers two or three times over. Memphis rested secure in the belief that it was above the altitude of yellow fever, but that delusion was shattered in 1855-'67-'73-'78-'79, that of 1878 being the most deadly epidemic known in the history of this country, sweeping away nearly six thousand human lives, and that of 1879 would doubtless have been equally as fatal but its presence was early recognized, and the fear was so great that the city was depopulated in less than three days. After this epidemic ended, which was not until about the 1st of November, the people on their return—many of the best citizens remaining permanently away—were appalled with the fact that their beautiful city was a waste, her commerce destroyed, her real estate an encumbrance rather than a profit, and the outside world suggesting the propriety of totally destroying the city by fire or other means. However, at this time the National Board of Health, together with the State and municipal boards, went to work to seek the cause. The bayou, the 7,000 privy vaults honeycombed through the city, and cisterns were investigated by competent men, and found to be sources of disease. The cisterns, which were almost invariably contiguous to privy vaults, admitted sewage, and 90 per cent. contained organic matter, and were declared unsafe for domestic purposes. In a word, the city was in a state of disintegration, and something had to be done to keep it from literally going to pieces. The first thing was to get rid of the privy vaults, in order to have pure water. To do this a system of sewerage was adopted, a special tax levied by act of the legislature, and the work hurried to completion. Those privy vaults, as fast as the work advanced, were emptied and filled with fresh earth. This, together with other sanitary work, has redeemed Memphis, and she stands to-day once more a healthy and prosperous city.

San Antonio has no more reason to expect immunity from epidemic diseases than did Memphis. The sanitary conditions existing here now are like, in a marked degree, those above spoken of in Memphis.

The theory that disease is the product of filth under favoring conditions was a mere speck a few years ago, but, under the guidance of a noble set of honest and indefatigable workers, the civilized world is accepting it as correct. This report is based upon the most recent and trustworthy data, together with our own personal experience and observation.

Discussion ensued, which was to the effect that the practice of emptying sewers in the river near or in the city should be condemned as deleterious to the general health. Connection with the river should be made far enough below the city to prevent unwholesome effects arising therefrom.

The report of the committee was then unanimously adopted.

Dr. George Cupples, for the Committee on Drainage, reported as follows:

President West Texas Medical Association: Your committee, appointed to report upon the subject of drainage, have the honor to do so as follows:

It would be impertinent to point out to a body of educated physicians that surface drainage is a *sine qua non* in the sanitation of inhabited localities. Stagnant water upon the surface of the soil has been held in all ages to be attended with disastrous results to the health of the inhabitants, and more especially in hot climates. In alluvial soil such as constitutes the greater portion of San Antonio, the retention of storm water by impervious subsoil is almost equally deleterious in its effects, and has been held by many authors as constituting one of the principal factors in promoting the spread and increasing the virulence of that dread disease whose mysterious march, enigmatic nature and inscrutable causes have hitherto set at defiance the researches of science, fortified by all the inventions of this marvellous age, and which, setting forth from its cradle in the marshes of the far-distant Ganges, ravaged the habitable world at intervals, disregarding alike the variations of climate and cold, the military powers and scientific precautions of the most enlightened potentates and nations, carrying terror to the hearts of men, depopulating the marts of commerce, sweeping away the babe at the mother's breast, man in the pride and vigor of life, and the hoary-haired patriarch tottering on the verge of the grave. Epidemic cholera, sparing no age and no class, has taught us one lesson, which it behoves every physician, every one vested with authority to whom is intrusted the care of the public health, to recognize and to act upon, and that lesson is, that sanitation in all its varied forms and aspects is the only means of combating the ravages of epidemic cholera, which of all known diseases is the most easily preventable and the least amenable to medical means.

To return to surface drainage. The necessity for removing stagnant water from the surface of the soil being generally conceded, your committee will not insist further upon this point, but urge its importance as a means to another end, viz., that of carrying the surface water as rapidly as possible to its natural destination, the watercourses, thus preventing its absorption by, and retention in, an alluvial soil, saturated with organic, vegetable and fæcal matter, the accumulation of ages of negligence and mismanagement.

SURFACE WELLS.

Another bearing of the question of surface drainage, and a most important one, is on the water supply. And especially does this affect the people of our city, where, before the erection of waterworks, many surface wells were in use, whose owners cling to them with the tenacity born of habit and ignorance of their danger. And again your committee would apologize for reiterating what has been repeated *usque ad nauseam*, what every one of you has learned theoretically and practically, that drinking water is the medium of transmission of many zymotic diseases, justly dreaded alike by physicians and by the community, among which may be enumerated epidemic cholera, typhoid or enteric fever, and diphtheria. It will readily be understood how surface water, not readily carried off by appropriate channels, should percolate through the soil, dissolving out the deleterious constituents therein contained, not unfrequently traversing in its course shallow and badly-constructed privies and contaminating the surface wells. Every physician can revert to numerous instances of such contamination and consequent transmission of disease. Unfortunately such water is usually bright, sparkling and attractive in appearance and taste. The remedy for this danger, which is much enhanced by the close proximity of wells to badly-constructed privies, would be found in the permanent closure of such wells by the municipal authorities, when found on examination by competent experts to contain impure waters.

Again, it is incumbent, for carrying out the purposes above stated, that the city should provide a sufficient number of public fountains to provide wholesome water for the numerous class of the population, who now draw their daily supply from the San Antonio River, San Pedro Creek and stagnant holes in the Alazan, and all this at a much greater aggregate expense to them than a supply of wholesome water from hydrants would entail, but which their improvident habits and precarious means preclude their procuring. This would cost the city something, but in view of the exceptionally pure water supplied by the waterworks company, and the filthy water in daily use by the poorer classes of the community, this would be judicious expenditure; for be it remembered that, while the indigent classes of the community are more exposed to the causes of disease which lead to death, the wealthier classes never fail to pay the penalty of their neglect of sanitary precautions in favor of their poorer brethren. There is a solidity among men which no wealth can evade, no influence can ignore. Malarial disease in its manifold forms is so prevalent in our climate and locality that it is universally agreed among us that no acute or sub-acute disease fails to manifest its unmistakable influence.

Malaria, "bad air," has never been detected by microscopy, or demonstrated by chemistry; like gravitation, it has never been detected. Its operation is recognized by its effects, and the laws governing it are well known; aqueous vapor is known to be its vehicle, and it is easy to understand the importance of surface drainage of a foul soil, reeking with the accumulated filth of a century and a half under a semi-tropical sun. It is well known to the laity as well as to the profession that a dry summer is a healthy summer, while a wet season is emphatically the reverse.

Your committee is not gifted with sufficient engineering skill to point out the manner in which surface drainage should be carried out, but the topography of the city of San Antonio suggests to their common-sense that it could be carried out at no great labor and little expense. The two watercourses traversing the city furnish four slopes, which provide easy conveyance of the surface water to their ultimate destination, the San Antonio River and San Pedro Creek. A system of levelling was carried out in the city several years ago by a competent engineer. The levels marked by stones still remain, and would furnish an easy starting-point for an efficient system of surface drainage. The gutters should be capacious so as to carry off readily the vast quantities of water which fall at times, and should be flushed at stated and frequent intervals. For this purpose the irrigation ditches which traverse the city might be rendered available, the city owning five days per month of the water, which would give four hours per day for this use. The barriers to the outfall of surface water by injudiciously constructed crossings should be removed. There should be no connections between surface drainage and culverts on the one hand, and the sewers of the city on the other. The former should be capacious so as to admit of free ventilation, the sewers should be of a size commensurate with their estimated contents, so as to admit of thorough flushing, leaving no large areas for the accumulation of the deleterious and poisonous gases evolved by sewerage. These points will no doubt be urgently set forth by the able committee to whom the consideration of the question of sewerage has been intrusted by the association.

In conclusion, your committee would urge the execution at once of a complete system of drainage, embracing the entire area of the city. Partial drainage would have comparatively little effect in improving the sanitary condition of our people, and this applies with still greater force to the cognate question of sewerage.

The prompt completion of thorough drainage and sewerage of the site of the city of San Antonio will go far to make it what nature, through climate and topographical confirmation, intended it should be—one of the most salubrious localities in this hemisphere; let man but do his part, and it will be in fact and in truth a health resort unsurpassed in its hygienic conditions.

All which is respectfully submitted.

It was unanimously adopted without discussion.

The Committee on Food Adulteration, Committee on Sanitary Regulations, Committee on Health, and the Committee on Milk Inspection, were not ready to report suggestions, and asked for further time. It was granted.

After a discussion on the best remedies for nursing sore mouth, the association adjourned.

AMERICAN PUBLIC HEALTH ASSOCIATION.

The eleventh annual meeting of this association was called to order by President Hunt, at 11 A.M., November 14th, in Merrill Hall, Detroit, Mich., after a prayer by Bishop Harris.

TREASURER'S REPORT.

The Treasurer, Dr. Lindsley, of Nashville, submitted his report, as follows:

RECEIPTS.

Balance last year	$2,778.94
Sale of publications	238.29
Donation	5.00
Dues paid	1,735.00
Total	$4,257.23

DISBURSEMENTS.

Printing seventh volume Public Health	$1,511.05
Printing eighth volume Public Health	1,008.81
Travelling expenses, secretary	55.00
Travelling expenses, treasurer	39.00
Stationery, postage, etc., secretary	210.92
Stationery, postage, etc., treasurer	69.34
Miscellaneous	34.86
Total	$2,928.08

After the election of a number of new members, Dr. J. M. Partridge, chairman of the Committee on Cattle Diseases, reported continued activity in his department, and stated that the papers to be read would be found very valuable and interesting.

DISEASES OF CATTLE.

A very long and explicit paper on the Texas cattle fever was then read by D. E. Salmon, D. V. S., of the department of agriculture at Washington. He began by saying that in the month of August, 1846, there was an outbreak of cattle disease in Lancaster county, Pennsylvania, which was then supposed to have been derived from a herd of cattle driven in from Texas. There have been many outbreaks of the same disease at the north since that time, invariably during the summer months. In all cases the disease was apparently caused by healthy animals from the Gulf States. These animals showing no trace of disease, there was for years no well-settled theory as to how the fever was transmitted to northern cattle. In 1853 reports of a disease of similar character began to come from the south and west, and in 1861 laws were enacted by Congress regarding the movements of southern cattle. The war broke out and cattle driving ceased as did also the disease at the north. But it began again with the first drove of cattle from Texas. Dr. Salmon related instances of the remarkable fatality of the fever in 1868, and gave a general summary of the results of post mortem examinations made. He then described three diseases among the cattle at the south which were very similar to that seen at the north. He said that 1,000 cattle die annually in the Panhandle district of Texas from these diseases. The malady does not spread from herd to herd, but is taken by those cattle who cross the trail of the infected ones. He said it was highly important that the state of Texas should recognize the existence of this disease among its cattle, stake out its infected districts and stamp out the terrible scourge. The district at the south to which it is dangerous to take northern cattle is the one from which infection comes, and he felt sure that climatic changes had little or nothing to do with the spread of the disease, because contagion always came from infected pasturage, and not from actual contact. Cattle from southern pastures where diseased cattle have been kept can infect northern pastures; other cattle cannot. The disease is never seen at the north except where cattle from the infected district of the south have been put in the pastures. Laws are needed, he said, to prevent the spread of this disease, and he asked the support of the association to that end.

Dr. J. H. Rauch, of Springfield, Ill., gave his experience with the disease in Chicago in 1868. He thought the only way to regulate the matter was a system of constant inspection, as all prohibitory laws covering certain months in the year had thus far been declared unconstitutional on the ground that they interfere with the rights of inter-State commerce.

Dr. Hillary Ryan, of Caldwell, Texas, said he had lived in and near the infected district in that State nearly all his life. He had noticed that shrewd cattle buyers would never purchase yearlings from the portion of the State referrred to by Mr. Salmon.

HOG CHOLERA.

Dr. J. M. Partridge, of South Bend, Ind., read a paper on the swine plague. This disease, generally known as hog cholera, first appeared in 1860, and its ravages were so frightful that the loss among swine was greater than among all other classes of animals, being largest among the great corn and pork producing regions of the northwest. The disease was the same wherever found, and post mortem examinations revealed almost identical pathological conditions wherever made. Some rather successful experiments with inoculation had been made, but it was thought best not to pursue them lest the disease should be perpetuated instead of exterminated. He recommended giving 10 drops of carbolic acid for every 100 pounds of animal three times a day, and a thorough disinfection of the pen with the same acid. Healthy animals should be separated from those diseased and removed to fresh pastures.

SWELL HEAD.

The last paper of this series was read by the Secretary, being Dr. Belfield's paper on "Swell Head."

Prof. Law, of Cornell University, corrected some errors in Dr. Belfield's paper, stating that the disease had been known among veterinarians for some time. It had been successfully treated by cleaning out the diseased cavities of the jaw and covering with iodine.

At 1 o'clock the convention took a recess until 3 o'clock.

AFTERNOON SESSION.

The assembly was called to order at 3.15, when Surgeon George M. Sternberg, U. S. A., read a paper on the

ETIOLOGY OF MALARIA.

Dr. Sternberg stated that during the past 15 years very extended experiments regarding malaria had been made, which tended to show that the diseases arising from it were due to the presence of parasites called bacteria in the system. He briefly referred to the progress of this class of research, and said that while many facts point to bacteria as the cause of malarial fevers, the statements that these parasites exist in the blood rest on a very slim foundation. He had made many experiments and never found such parasites in any specimen of blood he had examined. In his judgment micro-organisms found at post mortems cannot be evidence that the same were present in life. He then referred to the Roman fevers of the Campagna, and giving his opinion that they were very different from our intermittent and remittent fevers. In view of the large amount of experimenting now going on, Dr. Sternberg thought the problem of the cause of malaria would be solved in the near future. He thought it well established, however, that living micro-organisms are intimately connected with the presence of malaria. Tables were presented showing the number of cases of malarial diseases at a line of posts along the Atlantic seaboard, and at another line along the Mississippi and Missouri rivers. A quotation was given from Dr. Wood to the effect that heat, moisture and vegetable decomposition were essential features of malaria. Each of these three points was taken up separately and treated at length, the paper agreeing with the proposition quite generally, but also stating that a low state of the system was often if not always necessary for malaria to take effect. On the question of the heat, attention was called to the tables, which showed that the percentage of malarial diseases was much greater in the southern latitudes than at the north.

ORGANIC MATTER AND MALARIA.

Following in the same line was a paper read by Vice-President Gihon, prepared by A. L. Woodhull, Surgeon U. S. A., on the Etiological Association of Organic Matter with Malaria. While the author admitted that the exact cause of malaria was unknown, he nevertheless thought it probable that the decomposition of organic matter, mainly vegetable, was the root of the evil. More directly, he thought the causes were impure air and water and personal neglect of hygienic laws. Thorough drainage, he said, often prevented the spread of periodic fevers, and a number of instances were related where disease was quite plainly traceable to decomposition of vegetable substances and newly-turned soil. Much of the trouble also comes from stagnant and subsoil waters under certain temperatures, the chief fault, perhaps, being with impure drinking water. These papers were supplemented with the following

DISCUSSION :

Dr. Bell, of New York, said his experience had been that stagnant water, containing decomposed vegetable matter, was sure to produce malaria. He believed that the malarial poison never crossed a very broad stream of water or a very wide expanse of sea. The theory he advanced for this was that the water absorbed the poison. In support of this he cited instances of natives who gathered tropical fruits in South America during the heat of the day, and before sundown got into their canoes and rowed a few hundred yards into the interior lakes, where they remained all night. By so doing they escaped the fever sure to be met with on shore. In his opinion malarial fever could not be communicated by drinking water.

Dr. Geo. H. Rohe, of Baltimore, said malaria was not so dangerous in stagnant water as it was after the water had partially dried up—that is, at those times and places when the soil is just barely moist, and decomposition is going on.

Dr. Ryan, of Texas, did not agree with Dr. Bell in regard to malaria being communicated through drinking water. In his locality, families who used water from springs and shallow wells suffered from malaria, while those who had deep wells escaped. He gave an instance of two cisterns, one of which had a rotten wood cover, from which particles of decayed wood fell into the water, the other being clean and properly closed. In the first instance the family had intermittent fever, and became healthy when they were obliged to borrow water from the neighbor who had the perfect cistern.

PREVENTION OF MALARIAL DISEASES.

Surgeon Charles Smart, U. S. N., read a paper on this topic, in which he took strong ground and quoted authorities in favor of the theory that malaria is communicable by means of drinking water. Specific poisons, he said, as in the case of typhoid fever and cholera, had often been traced to bad drinking water, but he recognized the fact that to trace malaria to this source was a more difficult matter. He referred to the wooden water tanks of New Orleans, citing them as an undisputed cause of malaria in that city, and said there was a direct analogy between them and the water supply of many of the large cities. He thought the similarity in the death rate of southern and northern cities from malaria could not be accounted for on the theory of heat, moisture and decomposition, but could easily be explained by the impurity of the water supply in both localities. The well waters of malarial districts do not convey these diseases. He recommended filtration as a remedy, and thought it merited consideration from observed facts.

After the election of more new members, and the appointment of a committee to attend a sanitary convention at London, Ontario, the meeting adjourned till evening.

IN THE EVENING.

It was exactly 8 o'clock when President Hunt introduced Governor Begole, who delivered an address of welcome to the association on behalf of the State. The Governor referred in fitting terms to the work of the convention, and said he should be glad to welcome a convention of lawyers met to devise means of avoiding litigation, as these physicians were met to plan for the prevention of disease. He said it had been the custom of nations to bestow their honors and acclamations on the men who have been the most successful in destroying human life, and hoped the day was not far distant when the sanitarian, who devotes his thoughts and energies to the saving of the race, shall be esteemed worthy of greater honor than the soldier who destroys. In conclusion, he extended a very hearty welcome to the association.

MR. BRODIE AS MAYOR.

In the absence of Mayor Thompson, who was preparing for an eastern trip, the President introduced Dr. Brodie as mayor *pro tem.*, of Detroit, evidently not being aware of the genial physician's unsuccessful candidacy for that office in times past. The doctor accepted the situation most gracefully, and made a very neat speech, in which he pointed out the many things about Detroit upon which the average resident founds his pride of citizenship. The sewerage of Detroit was especially commended to the sanitarians present, as well as the water supply, in which the doctor said the recent temperance convention found much food for thought and self-congratulation.

THE STATE BOARD OF HEALTH.

A welcome on behalf of this organization was extended by its President, Dr. John Avery. No one phase of the progress of the last 50 years marks the period so well, said he, as the work of the American Public Health Association. There are now 26 States with good health laws and reasonably active boards of health, while just across the river the Canadian board is both active and effective in its work. Journals have sprung up devoted to health reform, and even the daily and weekly press devotes more or less space to the consideration of sanitary topics. He hoped the time was not far distant when the horse reporter would be obliged to give place to the sanitary editor, or at least yield a portion of his space to matter concerning public health. One of the most important matters to be kept in view by the association, he thought, was the awakening of public interest in correct sanitation. He was glad the association had seen fit to hold its present session in this city, the metropolis of a great State, a State whose people were taking a lively interest in the affairs which claimed the attention of this body.

THE PRESIDENT'S ADDRESS.

Dr. Ezra M. Hunt, of Trenton, N. J., then read his annual address. He first thanked the governor, Dr. Brodie and Dr. Avery for their cordial words of welcome, and paid a handsome compliment to the city and State. The address itself occupied over an hour in delivery, and was a carefully prepared and in all respects admirable document. He began by referring to the organization of the association 11 years ago, told how it was planned at the outset for large future usefulness, chronicled some of the perils it had passed through, and pointed out many of the victories it had scored. The organization was characterized as one of the broadest catholicity, but select in character and attainments, as he thought it ought to be. Dr. Hunt gave a number of historical reminiscences going to show the inception of sanitary reform, and marked the growth of hygiene and claimed for it a place among the recognized sciences. This work, he said, was the broadest of all the sciences because it comprehended them all, and brings its works nearer to the Creator, who is its inspiration as well as its aspiration. A comparison was drawn between the forethought of hygienic science and the afterthought of medical practice, and the fact noticed that in the one matter of race vitality there was a field of research as broad as that of the whole system of medical jurisprudence. Some of the problems to be considered he mentioned as distinctively American, citing yellow fever and cholera infantum as diseases so affected by climatic and natal influences as to require much original research on this side of the Atlantic. The following paths of work were referred to as open to the young sanitarian: original investigation, the collection and classification of information gathered by others, and the practical application of sanitary methods and principles. Dr. Hunt compared the action of Congress in voting $100,000 to check disease and not a dollar to prevent it, to him who would buy coffins and hire mourners for small-pox patients instead of devoting his money and time to the application of Jenner's discovery of vaccination.

At the close of the address the convention adjourned to 10:30 this morning.

As soon as the Merrill Hall meeting adjourned last evening the members of the association proceeded to the Russell House, where they met and were introduced to quite a large assemblage of citizens. An hour was spent in social intercourse, after which the party was served with a very enjoyable banquet. The entertainment was given by the local committee.

The morning session of Nov. 14 was opened by prayer by Rev. T. B. Forbush.

A number of new members were elected, and a committee appointed to audit the treasurer's accounts.

In the absence of the author, the Secretary read a paper on Observations of Texas Cattle, by Surgeon Jos. R. Smith, U. S. A.

A LOCAL PAPER.

Dr. D. C. English, of New Jersey, read a paper on the changes in type of malarial fever in Sumter county, Ala., from 1833 to 1883, prepared by Dr. R. D. Webb, of Livingstone, Ala. The author described the peculiar geography of the county, showing a land divided by many streams and containing rich alluvial soils. In 1832, as soon as the Indians left the country, a tide of immigration set in and the forests began to give place to fields. Fevers became quite common, ague or chills and fever, which yielded readily to treatment, being the prevailing type. In 1835 remittent fevers were the most prominent type, and were of two principal kinds—bilious inflammatory and congestive. The congestive type, often fatal, was seen *until* 1845, when it ceased to be prominent. The malarial fevers gradually became less active and typhoid came in and lasted for ten years, when it in turn disappeared. In 1866 another malarial wave struck the country and prevailed until 1874.

The Secretary read brief notes from Dr. J. W. Penn, of Humbolt, Tenn., and Dr. T. F. Wood of Wilmington, N. C., presenting some queries and observations on the subject of malaria, and opportunity was then given for

DISCUSSION.

Col. Geo. B. Waring, of Newport, R. I., Secretary of the National Board of Health, remarked that where deep agricultural drainage had been resorted to malaria almost always disappeared. In England the agricultural drainage was so shallow that it did not reduce the ground water to over 2½ feet below the surface, but the ground seemed to have a beneficial effect in removing the malaria. He believed that the marshes of the Potomac had nothing to do with the malaria observable at Washington, and thought the present experiment of filling them up would prove that he was right. He even went so far as to say that he thought the present work would increase rather than mitigate the trouble.

Dr. Gustavus Devron, of New Orleans, said that when the swamps in the rear of that city were kept full of water there was no malaria, but as soon as they began to dry out fevers broke out in great abundance. This was the case just now, and on the day he left New Orleans to come here 60 cases of malarial fever were admitted to the charity hospital, the largest number yet received for any one day. He had also noticed that the rice fields were healthy localities as ong as they were covered with water, but when the water was drawn off, either or the purpose of seeding or cutting the crop, sickness was abundant.

Health Officer Wight, of this city, called attention to the researches of Pettenkofer, which seemed to establish the fact that the germs of malaria were carried into the earth by the action of the surface water, and when this moisture dried out they were left to evaporate into the air and spread disease. He thought the subject of deep and thorough drainage should especially occupy the attention of sanitarians. It seemed to him to be well established that when swamps were first drained there was an increase of malaria, but when the ground had become thoroughly dried the trouble ceased. Deep drainage, he said, will deliver the earth from the dangers of ground water.

Dr. Oldright, of Canada, referred to the investigations of Dr. Bray on the presence of ague in winter. He accounted for it in three ways: 1. While the surface of the ground is frozen the spaces under dwelling-houses are not, and all the conditions of the summer months are thus present in the dwellings, the poison being carried through the earth by the ground water. 2. Wells in winter are comparatively empty, so that whatever of malarial poison there is in the water is in a concentrated form and really more dangerous than when distributed through the contents of a full well. 3. The human body may be a receptacle and vehicle for conveying the poison.

Dr. Tescott, of Greenville, S. C., said when he first went there there was no malaria, but as the lands were cleared for cotton-planting it began to prevail.

Dr. Felix Formento, of New Orleans, said it was a mistaken idea that malarial fevers are always remittent. On the contrary, they are often continued. He thought much time was wasted in trying to discover the exact cause of malaria, and that the principal work of the association should be directed to the general conditions already observed, with a view to preventing diseases caused by malaria.

Dr. E. L. Griffin, of Fond du Lac, Wis., gave some interesting facts regarding the city of his residence. Fond du Lac is a town of about 14,000 inhabitants. It lies at the foot of Lake Winnebago, and the average elevation of the city above the lake is only 12 feet. A sluggish stream runs through the town and furnishes what sewerage they have by means of surface drainage. Between the city and the lake there is also a stretch of marsh land which is often overflowed by water from the lake driven upon it by high winds. The stranger, said Dr. Griffin, visiting Fond du Lac would regard it as an unhealthy town, and expect to find its people afflicted with malaria, but after 30 years' practice there I can say that I have never yet come across a distinct and well-marked case of intermittent fever, although we have mild forms of continued fevers. The rate of mortality is but 9 per thousand annually. Dr. Griffin attributes this state of affairs to an abundance of pure drinking water obtained from deep wells.

ADULTERATION OF FOOD.

Dr. W. K. Newton read a paper on the sanitary control of the food supply. He gave a brief history of the legal aspect of the matter, both abroad and in this country, and was proceeding to some deductions therefrom when the hour for adjournment arrived.

AFTERNOON SESSION.

When the convention met Dr. Newton completed the reading of his paper. He feared that too much dependence was placed upon the laws themselves. The only way to make food laws of value was to work for their vigorous enforcement. In comparing the statistics of various countries as to the percentage of adulteration in food, Canada made the best showing, because the prosecution there had been active in support of the laws. He showed that the articles in use in everyday life were not adulterated with matter injurious to health. In other words, the adulterations were almost universally sins against the pocket rather than against the health. Speaking of oleomargarine he thought that its production should be closely watched by health officers, and that it should be sold on its merits. Ten pounds of glucose per capita are manufactured in the United States every year, and yet no one ever calls for this article in our grocery stores. He did not think that large quantities of sulphuric acid were ever found in glucose, and was inclined to think the article harmless. The trade of the milk dealer, bread maker and butcher, he said, should be closely watched by health officers, and investigation of the quarters where the business is carried on be made very searching. He gave instances of personal visits to bake-shops, where he found the premises very filthy. Dr. Newton recommended that all milk-dealers should be registered and notes kept of the quality and condition of the milk sold, as well as of the condition of the premises. Thorough supervision of this kind, he thought, would prevent infection from impure milk. Health officers should see that all meat was inspected before slaughtering, or at least before the meat is placed on the market.

VITAL STATISTICS.

A very entertaining paper on this subject was presented by Medical Director Gihon, U. S. N. At present he said the vital statistics of the country were confined to a bare record of births, marriages and deaths. What is needed is a record of disease, not of death, to the end that the statistics may be used in aiming at the prevention rather than the cure of disease. Such statistics can only be procured by legislative enactment. Some States already require returns as to diseases dangerous to the public health, but Dr. Gihon suggested that all were not agreed as to what this class of diseases should include. By reference to elaborate statistical tables he showed what had been accomplished in this direction by the medical officers of the navy, and said the chief object of his paper was to direct attention to the work which had been done there. He favored a continuance of the present system of mortality reports, but hoped they would be extended in the direction pointed out.

THE ADULTERATION PROBLEM.

Prof. Kedzie, of Lansing, read a paper by Prof. A. R. Leeds, of Hoboken, N. J., on the adulteration of foods and drugs. The author favored a standard of purity for milk, but remarked that it was necessary to settle upon a standard of analysis, referring, in the course of his remarks, to the differences existing between the standard required in New York and New Jersey. Dealers in drugs, he said, should be experts in the articles they dealt in and be held accountable for sales of adulterated articles. He believed that the addition of chicory to coffee and of glucose to sugar and syrup should simply be classed as frauds, as they were not injurious to health. The great need was the enforcement of present laws, and if they were found defective then they could be amended.

THE SUBJECT DISCUSSED.

The general subject of food adulteration was then opened for discussion, Dr. V. C. Vaughn, of Ann Arbor, first taking the floor. He believed that laws should be enacted making the seller of articles detrimental to health criminally responsible, and cited the action taken in France some years ago whereby confectionery manufacturers were obliged to place their names on all packages sold, responsibility for results as to health being placed upon their shoulders. The people who suffer, said he, are the poorer classes. The best grades of granulated sugar cannot be adulterated, and knowing this the rich buy them, while poor people have to content themselves with the cheaper grades of sugar, usually half glucose. He did not think that chicory in coffee or glucose in sugar were detrimental to health; in fact, he rather preferred glucose in syrup for his own use, but he objected to people being obliged to pay coffee prices for chicory and cane sugar prices for glucose. The remedy, he thought, was to educate more young men and women, so that they would be capable of making analyses of food. In Ann Arbor the leading grocer pays a considerable sum every year for having his sugars, coffees and spices analyzed, and thus he is enabled to buy only the best articles. He finds that this course pays. The milkmen of Ann Arbor do not dare to sell milk containing less than 4 per cent. of butter, said Dr. Vaughn, because they know it is liable to be analyzed at any time; in fact, these analyses are made frequently, just for the amusement of the thing.

Dr. Kedzie gave an instance of poisoning from glucose in which he found 1 per cent. of free sulphuric acid. He said he used to think that high grade sugars were free from this adulteration, but he had discovered that glucose could be mixed with granulated sugar and the crystalline appearance of the product preserved. One manufacturer in New York told him that he could put from 38 to 40 pounds of glucose in every barrel of granulated sugar, and as this netted him a profit of $1,500 per day, he proposed to continue the adulteration as long as the public would stand it.

Dr. Wilson, of Wheeling, thought the association was transcending its functions in discussing this phase of this adulteration question. It was not a sanitary consideration whether men sold chicory at coffee prices, but a matter for the State and the commercial community to look after. If it was claimed that these articles were unhealthy, then the public health association might do well to look after them. He thought that people used too much sugar and pepper, and didn't know but they were really better, in a sanitary point of view, for being adulterated with harmless articles.

Dr. Watson inquired if the gentleman did not consider dishonesty and fraud detrimental to the public health.

YELLOW FEVER.

Dr. Devron, of New Orleans, read a brief abstract of a paper by Dr. Thos. F. Wood, of Pensacola, on the subject of yellow fever. The writer remarked that the distribution and recurrence of this disease had been largely restricted by the progress of the maritime and commercial interests of the country, and pointed out the fact that the telegraph and local boards of health now made it possible to give early notice of the appearance of the scourge, so that cases were isolated and epidemic conditions almost entirely prevented. A better system of quarantine laws, improved navigation and the abolition of the slave trade, had reduced the possibility of infection from abroad to a very low point. Statistics and observations regarding the late outbreak at Pensacola were not read, and indeed a majority of the facts have already been given in the telegraphic columns of the daily papers.

SCHOOL HYGIENE.

A paper of considerable length, quite detailed in its treatment of this topic, was read by Dr. C. J. Lundy, of Detroit. He disclaimed any disposition to criticize public educators, but desired to point out some defects in the educational system of the time. He thought there were too many subjects taught in the public schools and too many hours of study. In support of this he cited the case of a young lady now under his treatment who was obliged to attend six recitations lasting 45 minutes every day, and was expected to devote five hours to study. Such a system excites rivalry, teachers are anxious to show that their scholars are making rapid advance, and pernicious habits of study are engendered. The importance of proper ventilation and lighting, he said, could not be overestimated, and he ventured to say that not one in three of all the school buildings in this State were properly constructed in these regards. Most school-rooms have a temperature ranging from 72 to 78 degrees Fahrenheit, while they should not be above 68 or at the outside over 70. He believed there was great room for improvement in the construction of seats and desks. As now used they tend to produce deformity, both of body and mind. Much stress was laid on the influence of the height and arrangement of the desk upon the eye. As at present used the desks were often to blame for near-sightedness, and in some cases total blindness. He had observed a gradual increase in near-sightedness in the grammar and higher grades of schools. In contradistinction to this the fact was remarked that children in India and the colored children in the south were rarely if ever affected in this way. During close application long continued the blood rushes to the eye and distends the coats of the eyeball, producing the elongation which results in near-sightedness. He felt that physical culture was neglected in the public schools, and believed the time was coming when it would receive the attention it merited. The school boards would have to employ instructors in physical science, men who understand their business thoroughly and who will teach the use and not the abuse of the muscles. Dr. Lundy advocated the dropping of one study and the introduction of physical training in its stead.

OTHER REMARKS.

The points of Dr. Lundy's paper were briefly discussed by Dr. A. N. Bell, of New York, Dr. E. J. Jones, of Boston, Dr. J. F. Noyes, of Detroit, and Dr. L. D. Wilson, of Wheeling. Vice-President Gihon said a new torture had been introduced into the schools of Washington called mental arithmetic. He had a boy who was now required to tell right off how much a third of three-sixteenths of five thirty-seconds was.

After the election of some new members the association adjourned till evening.

MISCELLANEOUS BUSINESS.

The resolution in reference to appointing a committee to attend the next session of the Canadian Sanitary Association was adopted, and the following new members elected: J. E. Emerson, Detroit; H. N. Cargill, Grand Rapids; F. O. Hart, West Unity, O.; A. B. Palmer, Ann Arbor, and Conrad George, Ann Arbor.

EVENING SESSION.

When the President opened the evening session Dr. Devron read a telegram from New Orleans, inviting the association to hold its next meeting in that city during the world's exhibition in 1884. Prof. J. Madison Watson, of Elizabeth, N. J., then read a paper on

PHYSICAL TRAINING.

He said that physical training should be sharply discriminated from physical exercise, and proceeded to give historical illustrations of his idea. Physical training, he thought, should commence at life's very dawn. A convenient classification of exercises should include training for families, comprehending both children and adults. Places may be set apart in barns, and out-buildings or in the open air, for childish games and physical training. Prof. West also gave some rules for the arrangement of exercises, the proper time and dress for them. He said the thoroughly equipped gymnasium was a necessity in all the higher grades of schools to-day, and every town of considerable size should have facilities for gymnastic exercises.

PHYSICAL CULTURE.

On this subject Prof. D. A. Sargent, of Cambridge, Mass., read a paper in which he referred at great length to the methods and results of physical training among the Greeks and Romans. He said that physical reform should begin in homes, and preparatory schools, and advocated the placing of all public schools under medical supervision, to the end that records of physical development and a history of disease among children might be kept. He favored the introduction of the gymnasium, and said the children should be taught to take pride in a healthy body, a pure skin, firm muscles and an erect stature.

STATE BOARD OF HEALTH.

Dr. James E. Reeves, Secretary of the West Virginia State Board of Health, read a paper on The Eminent Domain of Sanitary Science and the Usefulness of State Boards of Health in Guarding the Public Welfare. The following are some of the most interesting points:

Public health ever goes hand in hand with true liberty, and is the companion of orderly habits and pure morals. In London, about the middle of the 16th century, the population was estimated at 500,000, and the average duration of life was only 25 years—80 dying annually out of 1,000 of the population. The streets were narrow, scarcely paved, and equaled the imperfectly-constructed sewers as receptacles of all manner of abominable filth; the dwellings, principally of wood, were overcrowded, and no attention whatever was paid to their ventilation; water was scantily supplied; personal and domiciliary cleanliness were neither encouraged nor enforced, and the city was given up to licentiousness. Then, in 1665, London was visited by a plague, and it is recorded that in one night 3,000 persons perished from that terrible disease, and that up to 1679 the mortality from that source alone amounted to 100,000. But now, with its improved sanitation, its stupendous sewers which have been recently completed at a cost of $20,000,000, and its population increased to millions, how different the result. Instead of 25 years, the average duration of life is above 37 years, and the rate of mortality, instead of 50, is a fraction less than 24 in 1,000 of the population.

Every case of sickness and the loss of every life from preventable diseases is a tax upon the material wealth of the State, and a great sorrow to the family. Count the number of deaths in a community, or any given period, multiply it by 13—the estimated number of sick on hand for every death—and you have the average total of sick persons cared for at an expense much greater than would have been necessary for their support in health. In addition to this estimate, let us remember that at least one-third of all the cases of sickness and of the deaths that occur are preventable, and that the suffering and continued tax on health and life is in direct antagonism to industry and the general prosperity. Political economists have said the cash value of the life of an able-bodied, industrious man is $1,600. Now, accepting this estimate as a fair and proper basis for calculation of the wealth stored up in the United States, we may have some conception of the real value of the earnings of the human machine. Besides native wealth, our country is enriched annually from immigration. Every steamer that ploughs its way to our shores comes freighted with human souls to swell the population of this country and enlarge the profits of labor. It is computed that by immigration our country is annually enriched $50,000,000, and with net profits of labor amounting to $65,000,000. The great northwest is receiving the larger share of this wealth; but along with it there are some threatenings and dangers which well deserve wise attention. The immigrant brings with him not only his money, but also his habits of life and heredity. These may either be very good or very bad. If the former, then his citizenship is a substantial acquisition to the wealth of the State. If the latter, he is at once both a moral and physical leper, and of incalculable danger to society.

In country districts school life has many more exposures to unhealthy influences than are suffered in towns and cities. For example, it is no uncommon experience for some of the children to walk two or three miles every day they attend school; and, when the weather is wet and the roads muddy, they are frequently compelled to enter their classes with cold feet and damp clothing, and remain in that chilly, uncomfortable condition until the period of recess arrives, or, may be, until their return home in the evening. In winter time when the roads are icy and slippery, or when the ground is covered with snow, and travel on foot most disagreeable, those who have long distances to walk must hurry their footsteps to escape being tardy at roll-call, and, when they enter their classes are all aglow and perspiring. In that condition they take their seats, soon feel chilly, and are too sleepy and stupid to take interest in the lessons. At noon, when the hour of dinner arrives, they eat hurriedly the cold food contained in their little baskets and buckets, but not with as sharp appetite and good digestion as when they are at home. Immediately after dinner they engage too vigorously in all sorts of plays—running, jumping, "chasing the fox," base ball, and various other fatiguing and relaxing exercises—so that by the time of the call "to book!" they are as tired and indisposed to study as when they reached school in the morning. Then, after dismissal, in the evening they are again tired out by the walk home, and thus they are more or less exposed to unhealthy influences every day during the school term.

The management of country schools should provide special accommodations for the relief and comfort of children who come with damp clothing and wet feet. This can be accomplished in a well-appointed reception room for each sex, where should be kept on hand and ready for use a sufficient number of pairs of shoes and stockings of different sizes, also several warm wraps with which to clothe and warm the tenderest of the exposed pupils until their own shoes and stockings and other garments are dry enough to put on, and they are ready to enter their classes. Parents who are able to do so should be encouraged to supply the school store-room with an extra suit of clothing for each child they send, and, no doubt, in every community there could be gathered enough subscriptions of that kind from humane well-to-do persons and families to meet the wants and needs of the poorer children at school whose wardrobes are already too scantily supplied to afford them comfort and proper protection in cold weather. Nowadays, however, rubber shoes, gossamer circulars, and gum coats have become so cheap and common that even the poorest families should be able to provide such articles of protection for their children.

At the conclusion of Dr. Reeves' address the convention adjourned for the day.

The last day's session of the association was opened by prayer by Bishop H. M. Thompson, of Mississippi. After the election of some new members the advisory council reported a number of resolutions which were acted upon as follows:

1. Recommending that Congress be requested to re-enact the law of June 2, 1879, to prevent the introduction of contagious diseases in the United States, which act has expired by limitation. Adopted.
2. Asking Congress to appropriate a suitable sum annually to be expended under the direction of the National Board of Health in making experiments in sanitary matters. Referred to a special committee.
3. Congratulating the surgeon-general on the excellence and value of the library and museum in his office. Adopted.
4. Asking Congress for an annual appropriation of $10,000 for the museum and $5,000 for the library in the surgeon-general's office, and recommending that a fire-proof building be provided for preserving the books and collections. The resolution was amended by striking out the sums of money mentioned, and then adopted.
5. Asking Congress for such legislation as will protect the people of the United States from the introduction of cholera, yellow fever and other infectious diseases. Referred to the special committee.

NEXT PLACE OF MEETING.

The Advisory Council reported an invitation to hold the next session at St. Louis, Mo., and recommended that the invitation be accepted. Adopted.

MISCELLANEOUS.

Dr. Oldright, of London, Ont., invited the members to attend a sanitary convention which is to begin in that place this morning.

Considerable miscellaneous business was transacted, including the hearing and adoption of favorable reports on the resolutions referred to the special committee. The report of the Committee on Vital Statistics was presented without reading.

APPOINTMENT OF COMMITTEES.

The President announced the following standing committees for next year:

Advisory Council—Alabama, R. D. Webb; Arkansas, D. H. Dungan; California, F. W. Hatch; Colorado, Chas. Ambrook; Connecticut, C. W. Chamberlain; Delaware, L. P. Bush; Florida, R. B. S. Harris; Georgia, W. H. Elliott; Illinois, E. L. Griffin; Indiana, T. M. Stark; Iowa, R. G. Farquharson; Kentucky, Wm. Bailey; Maine, J. T. Gilman; Maryland, Geo. H. Rohe; Louisiana, S. S. Herrick; Massachusetts, Abel Ames, Jr.; Michigan, H. B. Baker; Minnesota, D. W. Hand; Mississippi, Wirt Johnson; Missouri, W. B. Conery; New Hampshire, G. P. Conn; New Jersey, D. C. English; New York, Elisha Harris; North Carolina, T. F. Wood; Ohio, G. C. Ashmun; Pennsylvania, Wm. Snively; Rhode Island, E. M. Snow; South Carolina, T. G. Simons; Tennessee, G. P. Thornton; Texas, Hillary Ryan; Vermont, H. D. Horton; Virginia, J. L. Cabell; West Virginia, Geo. B. Moffett; Wisconsin, J. T. Reeve; District of Columbia, D. E. Salmon; United States Army, G. M. Sternberg; United States Navy, A. Hudson; United States Marine Hospital Service, H. W. Austin; Commissioner of Education, John Eaton.

The other standing committees were continued with one or two minor changes.

COMPULSORY VACCINATION.

Dr. S. W. Abbott, of Wakefield, Mass., presented the report of the committee on this topic. He said that as yet compulsory vaccination could not be enforced in all communities for the reason that the people were not educated up to the necessity of it, and because many physicians were careless in their methods of performing the operation. The committee laid down a course of work which included registration of births and records of vaccination, the whole to be under the direction of boards of health.

ELECTION OF OFFICERS.

Officers for the ensuing year were then elected as follows:

President—A. L. Gihon, Washington.

First Vice-President—James E. Reeves, Wheeling.

Second Vice-President—Erastus Brooks, New York.

Secretary—Irving A. Watson, Concord, N. H.

Treasurer—J. B. Lindsley, Nashville, Tenn.

Executive Committee—Thomas L. Neal, Dayton, O.; J. D. Gatch, Indiana; H. P. Walcott, Massachusetts; G. Devroh, Louisiana; Charles Smart, U. S. A.; D. Fraser, South Carolina.

PLUMBING.

Dr. Kedzie read a few extracts from a paper by Rudolph Hering, C. E., of New York, on the Removal of Decomposable Material from Households. The paper was very long and contained minute directions for the sanitary plumbing of dwellings. It will be very interesting to architects when published in full in the proceedings of the convention.

In the same vein was a short paper by Dr. Oldright, of London, Ont., on the Overhead Ventilation of Sewers. He favored the use of six inch ventilating pipes to be placed at the mouth of the house drain, and extending up the side of the building above the roof. He answered some objections which have been made to this system, and contended that with a multiplicity of exits the sewer gas would not be so dangerous to health as it now is where grates at street corners are the only means of ventilation used.

The following delegates were appointed to attend the international medical and sanitary congress in Europe next year: R. C. Kedzie, Michigan; Stephen Smith, New York; Abel Ames, Jr., Massachusetts; W. K. Newton, New Jersey; O. W. Wight, Michigan; J. T. Link, Indiana; Geo. E. Waring, Washington; Ezra M. Hunt, New Jersey.

IN THE AFTERNOON.

Dr. A. N. Bell, of New York, read a paper by D. J. H. Raymond, of Brooklyn, on the care of households. The paper was devoted principally to the consideration of vaults for water-closets, the defects of several kinds commonly in use pointed out, and the belief stated that these closets should be out of doors and have direct connection with the open air. The author also condemned the use of wooden washtubs and sinks, on account of their liability to soak up foul and dirty water. He thought there was no portion of a dwelling of more importance than the cellar, and that the floor and side walls should be made absolutely impervious to moisture.

DISCUSSION.

Col. Waring, of New York, referring to the paper of Dr. Oldright, thought the method of using ventilating pipes for sewers by running them over the houses was attacking the subject at the wrong end for cities provided with proper systems of sewerage. He believed the sewer gas could be got rid of best by flushing the sewers.

Dr. Bell, of New York, said that he visited Detroit four years ago to inspect its sewerage system, and he had looked about considerably during his present visit. Detroit, he said, had succeeded in putting a quart of water in a pint cup. In other words, they had discovered some method by which they supposed they could empty a five-foot sewer into one only three feet in diameter. To make matters worse there were a good many lateral sewers in back alleys, which entered the main sewers at right angles and formed choked dead ends of foul matter. The main sewers enter the river at its level, and there is often back water extending from a few hundred to a few thousand feet, which drives the sewer gas back into the house. While the mortality of Detroit was but 20 in 1,000, one-third of these deaths were the result of diphtheria and typhoid fever. These diseases are preventable, and are commonly attributable to defective drainage.

Col. D. P. Hadden, of Memphis, gave a history of the sewerage system introduced in that city by Col. Waring. A few years ago there were no sewers in Memphis, while now they had nearly 50 miles of them.

Dr. Brodie said that Dr. Bell came here a few years ago and spent half a day in investigating the entire sewer system of Detroit, and told him (Brodie) that the sewer system of this city was the worst in the country. He had lived here a great many years and never saw any difficulty from the sewers. Dr. Brodie said it was very easy to write a book in support of some theory, but practical results were the true test, and the people were satisfied. He had not seen a true case of typhoid fever in Detroit in 10 years.

Health Officer Wight, of Detroit, thought the system of sewerage here was better than in many places. It had almost entirely destroyed malaria. He favored the separate sewer system and the carrying away of all organic matter before sewer gas had time to form.

Dr. Gihon cited the cities of China, where all fœcal matter was removed often before it began to decompose, thus preventing disease. This, he said, was the cardinal principle of the separate system.

THE SUBJECT CONTINUED.

A paper on the Problem of Drainage in Level Lands, by Prof. W. C. Van Bibber, of Baltimore, was read by its title by the Secretary. Dr. Newton read a brief summary of a paper on the Dangers of Fœcal Matter, by Dr. W. S. Ross, of Madisonville, Ky. The paper took the ground that all fœcal matter should be destroyed by burning. The city of Pullman was described in a paper by O. C. De Wolf, read by J. K. Allen, of the Chicago *Sanitary News*. This paper was recently published at Pullman, and needs no extended mention. The paper of Dr. L. H. Montgomery, of Chicago, on Modern Sanitation, was read by title by the Secretary, and the discussion was resumed.

Dr. Abel Ames said that the question of sewer gas must be considered with reference to particular localities. In cities already provided with expensive sewer systems it was idle to talk about tearing them up, and the sewer gas could only be provided for ventilation and not be prevented.

The discussion was closed briefly by Dr. Oldright, Dr. Bell and Col. Waring.

PAPERS SUMMARIZED.

A paper on Typhus Fever in New York City, by Dr. E. H. Janes, was briefly summarized by Dr. Chamberlain of Hartford. The disease referred to was eradicated by isolation of cases, house to house visitation and destruction of infected clothing. Dr. Rohe gave the main points in a paper on Baltimore Catarrh, by Dr. John Morris of that city. This is a disease peculiar to Baltimore, and the paper was mainly of local interest.

SMALL POX.

Dr. J. N. McCormack, of Bowling Green, Ky., read a short paper, entitled A Practical Point in the Restriction of Small Pox. His point was to vaccinate all exposed persons as soon as a case was discovered, as he did not believe the disease was communicable until after suppuration began. Dr. McCormack gave instances in his own practice in support of this theory.

A paper on Preventable Contagious Diseases, by Dr . David Ferguson, of Detroit, was read by its title and the convention adjourned until evening.

EVENING SESSION.

The Rt. Rev. Hugh Miller Thompson, Assistant Bishop of Mississippi, spoke on the subject of a Sane Humanity. He remarked that the salvation for which Christ came into the world was a thing of the earth, not of the future state. The care and cure of the body was one of the principal elements of His teachings. The speaker deprecated that sort of religion which looked upon consumption as a blessed thing because it gave promise of an early immortality. He referred at length to the idea that the transgression of physical laws was a sin against moral obligations; that sickness is not a misfortune, but the result of wrong-doing. Is it anything less than a crime, he asked, that 200,000 people die annually of preventable diseases? Prayers were put into his hands to be read at the time of the yellow fever epidemic in New Orleans, and the people said that God sent the scourge and could remove it if He wanted to. He told them to go out into the filthy gutters and pray—pray with their hands as well as their lips, until those gutters were clean, and the fever would disappear. Speaking of city life, the Bishop said the time was coming when the city would be the place for the highest type of manhood, when the citizen would be both urban and urbane and possessed of the civility and civilization which the word city implies. One hundred years hence the march of development will have moved forward so far that men will hardly believe that the physical conditions of to-day ever existed.

INCREASE OF INSANITY.

A paper on The Increase of Insanity in the United States was presented by Dr. Foster Pratt, of Kalamazoo. A few months ago, when the census tables relating to this subject were issued, Dr. Pratt began studying them, and the following deductions were presented:

That the proportion of insane to native white population, in the Northern States, is 1 in 597; in the Southern States, 1 in 660, and in the District of Columbia and territories, 1 in 748.

That among the foreign white the proportion in the Northern States is 1 in 248; in the Southern States, 1 in 283, and in the district and territories 1 in 236.

That among the colored races the proportion in the northern States is 1 in 545; in the District and Territories, 1 in 680, and in the southern States, 1 in 1,235.

That the average proportion of insanity among native whites in the entire United States is 1 in 618; among foreign whites, 1 in 250, and among the colored races, 1 in 1,097; and that the total average for the entire country of all population is 1 in 545 19-100.

It is a significant fact that the northern States, including the district and the Territories, containing about 60 per cent. of the entire population, have 70 per cent. of its insane; and that this 10 per cent. of proportional excess is more than supplied by the excess of foreign insane over the number that would result if the ratio of native insane to native population in the north were made the ratio in the foreign population. To illustrate: The average ratio of insane to all native population (white and colored) in the northern States is 1 to 642. If this proportion be applied to the 5,763,894 foreign born living in the north, the number of insane resulting among them would be 9,240 instead of 23,989 as it now is—a difference of 14,749, which is much more than the 10 per cent. of proportional excess of insane to population in the northern States and Territories.

Admitting that census tables, prior to 1880, fail to give the full aggregates of the insane, it will be safe, for present purposes, to assume that, whatever errors there may have been in the totals, the error of each census was fairly distributed between the various elements of population; so that the census proportion of insane to each class of population was fair and just. If this be conceded—and a close study of the census tables and other sources of information, shows that it should be—we are enabled to reach several interesting and significant results.

1. Beginning with 1860—while the foreign-born population had increased, since 1850, nearly 100 per cent., the foreign-born insane had increased 181 per cent.
2. That at the close of the next decade, in 1870, the total foreign-born had increased only about 30 per cent., but the insane of this class had increased nearly 100 per cent.
3. In 1880 the foreign-born had increased less than 20 per cent., but their insane had increased 150 per cent.

Dr. Pratt was at some pains to rearrange the census tables so as to classify the different nationalities and races by themselves, and in concluding his paper called attention to the alarming increase in insanity and pauperism among the foreign-born population. He believed that Congress should take active steps to prevent European countries from shipping their criminals, paupers and maniacs to this country.

ACTION OF THE ASSOCIATION.

At the conclusion of Dr. Pratt's paper, Dr. Kedzie introduced resolutions calling the attention of Congress to the various and many evils resulting to the American people from the large number of insane, paupers and criminal classes among immigrants, and asking that such laws as may seem proper in the premises be passed. After considerable discussion the main body of the resolutions was adopted, a portion of the preamble being stricken out.

Resolutions were then adopted thanking all who had aided in rendering the meeting both pleasant and profitable to the association.

A resolution of thanks to the retiring secretary, Dr. Ames, was also adopted by a rising vote.

LAST WORDS.

The retiring president, Dr. Hunt, returned thanks for the manner in which his efforts to successfully conduct the meeting had been seconded by the members of the association, and then introduced Dr. Gihon, the new president. The latter acknowledged briefly the honor conferred upon him by the association, and the convention for 1883 adjourned sine die.—*Detroit Lancet.*

SANITARY DEPARTMENT.

House Drainage.—Col. Waring of Newport, in his paper on "Plumbing and House Drainage," read before the Social Science Association at Saratoga, said: It is not possible, in the present state of the art of house drainage, to have a stationary wash-stand in every bed-room of the house, a bath, sitz-bath, water-closet, urinal and wash-stand in each of several bath-rooms on every floor, to have a slop-hopper in every dark closet, with sinks and laundry trays and servants' closets scattered here and there at whim, and at the same time to protect the household against all the possibilities of "bad drainage." A most important step in sanitary reform is to be sought in the subjection of house-building fancies to sanitary security. In this case, "security" is very largely a synonym of "simplicity." It is convenient, of course, to have water supply and waste-pipes at every turn; but here an excess of convenience is to be purchased only with an increase of risk. . . . In this case, especially, the judicious builder will hold a firm rein on the desire for a luxurious diffusion of conveniences.

The production of waste is an inevitable incident of human life. The excretions of the person, the discarded portions of food, the water of ablutions and of the laundry, and the various organic dust and offal of the household, are all of them liable to become a nuisance dangerous to life unless properly removed. They are rarely dangerous when first produced, but they become dangerous as they enter into the decomposition which is the fate of all discarded organic matter. This refuse must, in one way or another, be removed before decomposition develops its power for mischief. Regarding the waste-pipe through which the refuse must be removed, it should be of such material and construction that it will permanently carry away all water that may reach it. The joints of this conduit must be secured against leakage. Col. Waring tells us that he has tested very few soil-pipes under a head of water in which leaks through imperfect joints had not been developed.

The interior of the conduit should be as nearly as possible in the same atmospheric condition as the air outside of the house. That is to say, there should be a circulation to facilitate the rapid decomposition of the inevitable sliming of the walls, and the immediate dilution and removal of the gaseous products of such decomposition. In working towards this condition, we first carried up small vent-pipes from the tops of our soil-pipes; later we continued the pipe, full bore, to the top of the house; later still, we introduced a supply of fresh air at the foot to maintain a complete circulation; and last of all, we enlarged the soil-pipe at its top to increase its draft.

As with the conduit itself, so with the receptacles and connecting pipes leading to it. These should be sufficiently ventilated in every part, and all closets and sinks of every sort should be so freely exposed to the open air that no suspicion of "closeness" can ever attach to them.

At every point, the water used for the transportation of the wastes that are to pass through our pipes should be used in the most effective way. A thread of water running from an imperfect faucet is practically of no value whatever. It follows a narrow and uncertain course along the side of the soil-pipe or drain, with no power to wash its general surface, and with no power to remove accumulations. It is pure and unadulterated waste. Incidentally, it may be said that in very many houses its total volume is far greater than that of all the water used, and that in many towns, including New York City, the aggregation of these ineffective dribblings is almost the sole source of insufficient water supply. It is hardly practicable, under any ordinary head, especially on the upper floors of houses, to deliver into a water-closet or into a slop-hopper or sink, a sufficient stream of water to secure the efficient cleansing of its waste-pipe. It is in this direction that one of the most important of modern reforms is being exerted, working rapidly towards a most effective improvement in the whole practice of house drainage. The watchword of our best present movement is the word "Flush!" It will not be long, we may be sure, before it will be universally understood that, after pipe ventilation, the great secret of good drainage lies in the use of abundant volumes of water delivered in a mass along with each contribution of filth. A perfect system of drainage and water supply would be one where, at all ordinary times, not a drop of water flowed through the outlet channels, only occasional dashes of several gallons lubricating the walls of the pipes, and carrying along completely and with velocity substances which, under the old system, smeared their sluggish road along the pipe, and left material for infectious decomposition at every step.

In the discharge pipes of house building great simplicity should be borne in mind.

Drainage works may be introduced into a house in such a manner as to be, to all intents and purposes, absolutely safe. The shade of apprehension which they may justly cause is, in the case of simple and well-arranged work, practically not to be considered. It is, however, a case suggesting something like the mathematical expression, "inversely as the square of the distance." If a certain amount of piping is in the least degree dangerous, twice that amount is four times as dangerous, and four times that amount is sixteen times as dangerous, and so on—not absolutely, of course, but relatively.

In other words, while we make all of our drainage works as perfect as possible, let us limit ourselves in all cases to the very smallest amount of piping, the least amount of ramification, and the smallest number of water-closets and other vessels consistent with reasonable convenience. A stationary wash-stand in a bath-room, having a short and well-flushed connection directly with the main soil-pipe, need never be objected to. A stationary basin ten or twenty or thirty feet distant, with a long connection pipe, should always be avoided. The luxury of an abundant flow of water in every bed-room seems, at first blush, to be worth all its cost. If we mean cost in money, this is true; if we mean cost in risk, it is by no means true. Practically, it is one of those luxuries in which no considerate person appreciating all the bearings of the case would think of indulging himself. One of the leading arguments of the trap-ventilation school is that such ventilation leads to the complete aeration of long lateral wastes. My remedy would be to abandon, as we always may in new work, the use of long lateral wastes.

I should give an abundant supply of water at one convenient point on every floor. In larger houses, where bath-rooms and water-closets may be required at considerable distances from each other, I should give each its independent soil-pipe. Wherever a soil-pipe was constructed, I should permit a good deal of license as to the conveniences in its immediate vicinity. But the moment the question arose of giving a wash-stand, or a sitz-bath, or a urinal, to an apartment even ten feet away from the soil-pipe, I should exert all my influence in opposition to it. I should even oppose too generous a distribution of soil-pipes themselves; bearing always in mind the cardinal principle that the more we concentrate our discharge of wastes through single channels the better. One water-closet is better than two, if it will afford reasonable convenience. A bath waste is kept in better condition the more frequently the contents of the bath tub are discharged through it; therefore the fewer bath tubs the better; and so throughout the whole range of plumbing appliances. Many "sanitary engineers," and more plumbers, will tell their clients that this is pure theory, and will advise, or consent to, a wealth of conveniences all about the house. Plumbers are proverbially slow to learn; but they learn, nevertheless, and they will in due time accept the pure theory as the wisest practice. Their clients will do well to anticipate them.

Schoolhouse Cesspools.—A few weeks ago Mr. C. F. Wingate read a paper before the Medico-Legal Society on the plumbing and other health laws of New York, and the writer hereof took occasion to point out some of the neglects in the application of these laws to school-houses, and to some other places of popular resort. He described the costly excrement tanks specially cast for the purpose, and the surrounding brick walls saturated with filth, over which the seat-holes are cut, without partitions, and in such close proximity as to bring the bodies of the children in actual contact when using them; the plugs and pulleys with which the tanks are provided, to economize water, to retain the excrement for several days or a week at a time, which is not uncommon; that bad as these arrangements are, they are stinted—in some of the schools of 1,000 pupils and upwards the privy-seating capacity is not more than one seat to fifty pupils—and that in the rush at recess there is much suffering, and commonly much filth in the surroundings from this cause. That these cesspools are so situated, in some cases in the basements of the school-houses, as to be a common source of stench and danger throughout the building and premises. That all that is here said of the cesspools of New York school-houses, and the neglect of the Health Department, equally applies to Brooklyn. The speaker also animadverted upon other cesspools of a different kind in some of the tenement house districts, and of saloons visited by hundreds of persons daily; old vaults, troughs, and boxes, with no sewer connections, filled to the brim and running over with excrementitious filth, and the yards round about strewn with rubbish—all saturated; and he concluded his remarks with the inquiry: Is it any wonder that there are 200 cases of typhoid fever in New York?

Wasteful Use of Water.—Mr. Thomas J. Bell, Assistant Superintendent of the Cincinnati (Ohio) Water Works, in the course of a paper written by him upon "The Wastage of Water," gives the following table as representing the daily per capita consumption in five American cities, and claims, with perfect truth, that the great increase of rate is to be charged directly to waste instead of necessity:

Boston, per capita rate in 1850, 30 gallons; in 1881, 92 gallons.
Brooklyn, per capita rate in 1866, 17 gallons; in 1880, 54 gallons.
Chicago, per capita rate in 1867, 43 gallons; in 1880, 114 gallons.
New York, per capita rate in 1867, 62 gallons; in 1876, 100 gallons.
Philadelphia, per capita rate in 1867, 56 gallons; in 1880, 67 gallons.
Cincinnati, per capita rate in 1845, 21 gallons; in 1881, 87 gallons.

A New Method of Sewer Ventilation.—An English apparatus by Mr. T. S. Wilson, F.S.I., and Mr. H. T. Johnson, is called the patent hygienic furnace. Profiting by the proximity of the gas mains to the sewers, the patentees have constructed a gas furnace to be inserted in the manholes. The gas is introduced into a little chamber, where it is mixed with a due proportion of air and supplies some Bunsen burners. Immediately above the gas there are some fireclay plates, which soon become heated; while above them are iron divisions. The heat naturally draws the air up from the sewer below; it passes through the Bunsen burners backward and forward over the fireclay plates and iron divisions, till at last it finds its exit in the ventilation chamber or manhole, and hence through the grate into the street. The furnace not only causes a strong current of air from the sewer, but, as it is capable of being heated at from 600° to 700° Fahr., it should destroy all the germ life that travels with the sewer gas. Experiments with sterilized infusions of meat have been made, and whereas ordinary air drawn from the street soon caused the infusions to become turbid with animalcules and fungoid life, no such effect was produced by the sewer air taken after it had passed through this furnace.

The Sanitary Homes of the Rich.—Sanitary science is one of the oldest sciences. The hygienic laws laid down by Moses and Hippocrates are to-day just as applicable as they were two thousand years ago, and only need adaptation to our complex civilization. Nevertheless, progress in the practical application of sanitary principles has not been rapid. It has kept pace with the advance of knowledge, but this has, of necessity, been slow and disappointing. Until newspapers began to be widely diffused there was no means of popular enlightenment, and even now people are apathetic about hygienic matters, and neglect the "ounce of prevention," nowhere else so vitally important.

It is only thirty-five years since the first comprehensive health law was enacted in Great Britain; and it was not until the criminal blundering of the Crimean war, and the death of Prince Albert, that the English public were awakened to the need of sanitary reform. Much had been previously done to improve the condition of hospitals, prisons and factories. Smoke nuisances had been abated and grave-yards in crowded cities closed. Domestic sanitation was, however, an unworked field, which is only now beginning to be cultivated. The principle laid down by Dr. Carpenter, that "the house is the unit of sanitary work," had not been accepted. Building details had been left to the architect and it was not until medical men awoke to the alarming spread of zymotic disease, due to bad drainage, that people began to question the providential theory of disease and to raise the warning cry, "Look to your drains."

The most surprising fact is, that while the evils complained of have been found in both city and country houses, and in the homes of rich and poor alike, yet they have been most destructive to life and health in the finest residences here and abroad. The same ignorance which led Peter the Great to select a flooded marsh as the site of his imperial capital are repeated in the arrangements of the noblest European palaces. Viollet le Duc relates that he had occasion to visit the Tuileries with an old lady of the "ancien régime," who noticed with satisfaction what to him were insufferable odors from certain sanitary conveniences in the building, and said that they recalled to her the time before the Revolution when she was a maid of honor. After the death of Prince Albert, his usual study seat was found to be directly over a cess-pool, whose emanations were undoubtedly the cause of his disease. The almost fatal illness of the Prince of Wales at Sandringham was ascribed to a like cause. The ancient palace at Darmstadt, where the Princess Alice was carried off by diphtheria, was afterward found to have many leaky drains and unventilated cess-pools. Within a year Bagshot Park, the newly-built residence of the Duchess of Connaught, supposed to be perfect in its sanitary arrangements, has been discovered by Dr. Playfair to be filled with sewer-gas. These experiences of royalty show in the most vivid way how little attention has been given to the sanitary arrangement of the costliest and most palatial dwellings. Mr. Rawlinson, the eminent English engineer, declares that Belgravia is the worst sewered part of London, and that the drainage of the Government offices and official residences in Downing street is so indescribably bad that he would rather resign than live there.

These statements are sufficiently startling, but they are no worse than the known facts about the finest residences in the United States. Much has been written and said of late years about the wretched homes of the poor of New York, their squalor, their filth, and the moral and physical degradation of their occupants. All are familiar with the harrowing description of the barracks and slums in which a large proportion of the metropolis live and in which so many of them die. Little, however, has been heard of the unsanitary homes of the rich; and it seems paradoxical to declare that the defects of the costliest houses on Murray Hill rival those of the tenements of Baxter street. New York is the commercial centre of the country. The daily transactions of its clearing-houses mount up to millions. Its docks swarm with shipping from all parts of the world, and its warehouses overflow with merchandise from the Ganges, the Thames, the Golden Gate, and the Amazon. Millionaires jostle each other in Wall street, and bonanza and railway kings are as common as blackberries there. To house the possessors of this wealth, the finest dwellings that architectural taste can design are being erected all over Manhattan Island, many of them of imposing dimensions, palatial in their adornment, and seeming to lack nothing to promote comfort, enjoyment and health. Yet I venture to say that a large number of these houses are mere whited sepulchres, and their luxurious inmates are exposed to constant risk of disease and death. The story of the rich man who tore down his barns and built greater ones has a parallel in hundreds of cases, where the possessor of wealth, acquired by years of persistent labor in mining, manufacturing, commerce or speculation, comes to New York to enjoy his gains, buys a mansion, adorns it in æsthetic style with costly frescoes, rich upholstery, elaborate carving, and bric-à-brac, and then has some member of his family stricken with sickness, due to sanitary defects in or near the dwelling.

If we critically examine one of the palatial residences on Murray Hill, what do we find? Instead of being spacious, as if the owner liked ample room both for his comfort and to dispense a liberal hospitality, it is long and narrow, as is inevitable from the contracted site. The windows have little, if any, outlook, as the view is shut in by the adjacent houses. Each owner seems determined to cover every inch of his land with brick and mortar, leaving only a paved patch some fifteen feet square for a yard to dry clothes. The bit of grass-plot and grape-arbor, with an occasional fruit or shade tree, formerly in vogue have gone out of fashion. Rich New Yorkers no longer care for such commonplace things. Their children do not require a play-ground. The family are content with an outlook of bare walls and neighbors' windows. Such yards as may be seen are so shut in as to appear like prison grounds. As the sunlight rarely enters such homes, the long three-deep suits of rooms never seem bright, sweet or fresh, and there can be no free circulation of air. Such air as does enter the seldom-opened windows is redolent with scents from stables, soot from elevated railroads, vapors from factories, or odors from Hunter's Point refineries; the careful housekeeper therefore closes the windows tightly, and the sole source of air is the furnace register, which is supplied from a leaky cold-air box, filled with cellar-damp and street-dust. When ignited the latter smell like burnt feathers, and on analysis it yields twenty per cent. of organic matter. Yet air of this composition is the chief lung food of nine-tenths of the people of the metropolis. After passing through the furnace registers, it mingles with the vapors from the kitchen and laundry, or with gases from leaky drains or foul plumbing fixtures and the products of combustion from scores of gas-jets, forming what Professor Huxley aptly calls "a stirabout of solid particles," and a poor substitute for nature's atmosphere.

Ventilation is decidedly one of the lost arts, and in most houses there is hardly a pretense of providing it. The sole dependence for fresh air is usually windows and open fire-places, the latter of which are becoming common. Where flues are provided to carry off foul air, they are so small and so roughly lined as to be of little utility. Ventilating shafts are little better, as they are seldom provided with proper openings at the roof, while the skylights over halls are in hundreds of cases tightly sealed. In a vast majority of houses, the air from the lower floor stagnates in the rooms next the roof, whose occupants are in a constant state of stupor from the impure atmosphere. The increasing prevalence of catarrh and pneumonia is pronounced by many physicians as due to the unwholesome air which our people breathe.

Two thousand years ago, Hippocrates said a dry soil is essential to health. A damp cellar is one of the least desirable features of a dwelling. Yet, Professor Chandler declares that not one house in a hundred, in New York, has a properly constructed cellar, which explains the large proportion of deaths from consumption, and the prevalence of rheumatism in the metropolis. In the main part of the occupied portion of Manhattan Island there is no soil drainage. Sewer connections are usually made with tile drains, which are rarely tight, and hence they seriously pollute the soil. There is a lack of ventilation and sunlight in cellars, which are crowded with wood and coal bins, wine-closets, and domestic rubbish. Householders should follow Professor Chandler's advice, and inspect their cellars once a month.

In the best houses, the provisions kept in refrigerators are exposed to the chance contamination when the drip-pipe connects directly with the house-drains. Frequent cases of sickness have been traced to this cause. Water tanks and cisterns connected with soil-pipes are exposed to like contamination. The space behind the wood-work of basins, sinks, and other fixtures is almost invariably foul. Slop-sinks are sources of offensive odors, and all these evils are intensified by the lack of water for flushing purposes, owing to the deficient pressure.

The multiplication of servants, and the lack of responsibility for domestic details, have an important sanitary bearing. In houses which have the largest number of domestics, there is often the least attention given to cleanliness. In one of the worst dwellings I have had occasion to examine, and where a death occurred under peculiarly tragic circumstances, there were nine servants, and if the number had been larger, I fear the whole family would have been carried off. In proof of the correctness of these assertions, I may cite the steady advance in the death-rate of New York City; the statements by official inspectors of the Board of Health of the amount of bad plumbing found everywhere; the evidence of other professional observers, like Col. Waring, that defects in house drainage are prevalent in the very best houses, "almost without exception;" and the testimony of physicians like Dr. Fordyce Barker, Dr. Willard Parker, Dr. Frank H. Hamilton, and others, based upon wide experience and extensive practice. If other evidence were needed, it might be found in the number of practising physicians in New York City, the drug stores on every corner of the leading thoroughfares, and the large outlay for medical attendance and drugs in most families.

But this state of things is not confined to the metropolis. From Brooklyn, Boston, Philadelphia, Washington, St. Louis, Chicago, Cincinnati, San Francisco, and other cities, large and small, the same story is heard. The trail of the serpent is over them all. Wherever "Jerry" builders, ignorant plumbers, and unscrupulous owners or speculators are found, the same deplorable condition of things exists. In Brooklyn, the finest homes on the Heights have been poluted with sewer-gas, despite their superb situation overlooking New York Bay and swept by winds from every quarter. At the time of the Rockwell case, in 1879, a dozen houses on Montague Terrace were visited by diseases due to bad plumbing. Few of the houses have any barriers against sewer air. During the extensive epidemic of diphtheria in 1881, defective plumbing was found in the majority of the houses where cases occurred. In Washington, the sanitary defects in the White House, which are believed to have contributed to President Garfield's death, are equaled by those in several public buildings, where trapless water-closets, leaky drains, furnaces with poluted air-supply abound. Mr. C. A. Robinson, Inspector of Plumbing of the District of

Columbia, records a number of similar evils, many of them in "good houses, some among the finest in the city."

In Boston many fine residences, especially in the fashionable Back Bay region, lack sanitary safeguards. Thousands of houses are built upon piles in made ground. In the process of settling, which may continue for years, the drains are inevitably dislocated, and this permits sewage to saturate the foundations and subsoil. I have known seventy-eight cart-loads of earth polluted in this way to be taken from under a building. This condition of things may exist for months, and even years, without a suspicion of harm, until serious sickness breaks out. Mr. Theodore Clarke says: "In my experience, defects of this kind are far more common than leaks in iron soil-pipes, imperfect traps, or other defects attributable to the plumber." The thickest concrete flooring is no barrier to drain-air, which, after entering the cellar, readily finds its way through the recesses in walls where plumbing pipes and furnace flues are carried to the remotest point of the building. An official examination of three hundred and fifty-one houses, made in 1878, showed that fifty-five per cent. of the drains were imperfect. In Chicago, out of seventy-five houses where diphtheria occurred, only four were found in a sanitary condition. In St. Louis, Health Officer Moore stated, in 1879, that there was probably not a single house with perfect drainage, while in the vast majority every sanitary maxim is violated.

As may be inferred, if plumbing in these localities is so bad, it is still worse in small cities and towns. In such places, men of wealth aspire to build residences rivaling those of the great cities, and with all modern improvements. Neither the architects, however, nor the plumbers on whom they rely, have hitherto been equal to the task. The former are no better informed than their city brethren, while the latter are mostly tinsmiths who have had no practical training in plumbing and who make extraordinary blunders. The most carefully drawn specification will hardly restrain an ignorant or unscrupulous mechanic from scamping his work. Hence, hundreds of examples of criminal blundering may be found in these places. In St. Paul, Minn., galvanized iron is invariably used for ventilation pipes. The rest of the plumbing is on a par with this practice. In Rochester, I am told that there is only one practical plumber among the thirty men in the business there, and when tinsmiths have contracted to plumb a fine residence they have had to borrow a journeyman plumber to make the wiped joints, as tinsmiths can only make "bolt" joints. In another city in the centre of New York State, a fine mansion which cost seventy-five thousand dollars had such small chimney flues that not one of them would draw, while the plumbing was simply wretched. A bath-room in the centre of the house had no ventilation except through a transom window which opened over the head of a bed. The occupant of that bed died of typhoid fever. Another bath-room was ventilated by a small pipe into a chimney flue, and the odors passed into the dining-room on the floor below, causing so much offence that the fire-place had to be bricked up.

Three causes have contributed to the prevalence of defective house drainage. First, plumbing practice has not developed so rapidly as other useful arts. Houses built only a few years since lack many sanitary requirements. Since 1878, a revolution has been effected in methods of work and in the character of plumbing appliances. A large manufacturer of plumbing supplies states that his sales of fine goods of this class during the past three years exceed the total sales of the previous thirteen years. The widespread agitation by the press and by technical journals has made the public appreciate the necessity of having the best plumbing in their houses. The time is not distant when people will be willing to make a reasonable outlay to meet the sanitary requirements of dwellings. Second, the number of plumbers competent to do good work is small.

The great majority have had to depend upon contract work, which of necessity is cheap and inferior. Few of them have had opportunities to execute work of the best kind. They have been snubbed by architects, cramped by customers, their motives distrusted and their intelligence belittled. A plumber who is conscientious and disposed to render a fair equivalent for his pay cannot compete with unscrupulous rivals and must be content with a limited business. The mass of the trade are grossly ignorant of scientific principles, and are influenced too strongly by mere considerations of profit. If a customer does not want good materials or the best workmanship, the ordinary plumber furnishes a poor quality of both, suiting his service to his pay. Even when the owner is wisely liberal and desires to have the best that money can supply, the plumber, from ignorance, may be incapable of meeting his wishes, and one constantly finds houses in an execrable condition when no limit has been placed upon the cost. Again, some plumbers who have gained a reputation for good work will deliberately trade upon this reputation, and, by employing a few good workmen and a larger number of inferior hands or boys, will strive to make the skill of the former supply the deficiencies of the latter.

It might be expected that our architects would give special heed to sanitary requirements, but thus far they have been too busy with the æsthetic side of their profession, simply because this is what their clients expect from them. Hence the plumbing and drainage of a house are usually left to the wisdom and care of the builder or plumber, with what results the public too well know. Any one who has had occasion to read the plumbing specifications drawn up by the average architect will be filled with amazement at their crude, incomplete, and unsatisfactory character. Even where, as in New York, printed blanks are provided by the health authorities, a large proportion of the plumbing specifications have to be returned for revision.

As human nature is constituted, and while men must live and carry on business under severe competition, it is only to be expected that plumbers will be governed by self-interest; but householders may avoid being victimized by employing only men of intelligence and standing. There is a strange delusion on the part of the public that a plumber who works himself and has a shop in a cellar must, of necessity, be more intelligent and cheaper than a workman employed by a reputable firm who can afford to have an attractive shop in a good locality. Hence one constantly finds the most stupid and rascally fellows admitted into the best houses, and allowed to do as they please with the drainage. Some one has said that a man cannot handle lead without moral deterioration. A more rational explanation of the deficiencies of plumbers would be, that where men's pecuniary interests are opposed to their sense of what is right they become what is called "business honest," and sacrifice others' interests to their own. The day of retribution, however, is fast coming to the men who have done inferior work in this line.

Another cause of the unsanitary condition of modern houses is the parsimony or false economy of their owners. There seems to be a special temptation to skimp and save in plumbing. Yet it constantly happens that the whole drainage arrangements of a house are spoiled by such a penny-wise policy. It is always cheapest to have good work, and the cost of tearing out and correcting defects is usually three times the outlay for making work perfect at first. As Emerson remarks: "The difference between what is good and the best is sometimes as great as between what is good and what is bad." A slight flaw in the drainage of a house may ruin the whole. As a chain is never stronger than its weakest link, so the most elaborate system of plumbing depends for its security upon the perfection of every detail.

Furthermore, householders must learn to distinguish between things which are essential and those which are merely ornamental. They must not consider a stain on a marble slab or on the lining of a bath-tub a more serious offence than a soil-pipe full of sand-holes or one jointed with cement and putty. Neither must they take it for granted that because the visible work about a house is neatly and carefully finished, the work hidden under floors or behind casings is of equal quality. When one reads descriptions of the gorgeous sanitary arrangements in certain London artists' homes, where lavatories are fitted up with coral, silver, crystal and marble slabs, inlaid with uncut gems and ornamented with silver and gold, he cannot but wonder, in view of the shocking sanitary defects in the homes of the English nobility and of royalty itself, if the rest of the work is scientifically planned and executed.

Often the cry is raised that people should abolish plumbing altogether in houses. Such radical measures, however, are needless and unwise. Good plumbing is healthful, convenient, and comfortable, and it is absurd to talk of abolishing it as of abolishing cleanliness, sunlight, or fresh air. Many persons try half measures and remove basins from bedrooms, but ignore the more obvious and serious defects of pan water-closets, foul slop-sinks, and other fixtures which are found in the very finest houses in close proximity to living and sleeping rooms. Still others have recourse to devices for excluding or destroying sewer-gas, so widely advertised of late, but which have justly been described as humbugs and frauds upon the public.

Thus far I have referred specially to houses owned by their occupants. There is a still larger class, that of leased dwellings, owned by individuals or by large proprietors, as the Astor, Rhinelander, Goelet, or Lorillard estates. They are situated in fashionable sections, and command a high rental. The plumbing is often elaborate, and was originally of average good quality. Sanitary science, however, has made such rapid strides of late, that the materials, appliances, and methods of ventilating fixtures and pipes in use ten, or even five years ago, to afford security against sewer-gas, are now obsolete. Plumbing practice in the past was based on English experience, and has been largely modified to suit our climate and domestic habits, while experience has shown the necessity of using heavier material, better and more costly fixtures, and more elaborate methods of trapping and ventilation. As the lead soil-pipe, brick and stone drains, and cheap and inferior fixtures, to be found in most leased dwellings a decade since, have yielded to the wear and tear of time, landlords have made improvements, but in an economical fashion, having always their own interests in view. It is but natural that property owners should be slow to spend money for the benefit of their tenants. They usually employ a plumber who has sufficient discretion not to put his customer to excessive expense, by doing everything a tenant may want or which his own judgment may tell him should be done to insure safety. The result is systematic patchwork and deception, by which the tenant is frequently led to think that everything has been made right, although dangerous defects still exist. Often, only through the intervention of the Board of Health can landlords be forced to provide improvements. Again, even where a tenant himself pays for needed alterations, the plumber is ashamed to stultify himself, and hence omits to completely cure existing defects. Flagrant cases of this kind have come up in my experience. A gentleman rents a house in the belief that it is in good sanitary condition. He is assured by the landlord that all sanitary safeguards are provided; in time bad orders are noticed and sickness breaks out. The landlord, when applied to, sends his plumber, who makes some slight changes, pronounces everything all right, and goes his way. Again trouble ensues, the same course is repeated, and finally the landlord declares that nothing more can be done. Recourse may then be had to the Board of Health, whose inspectors will suggest some additional changes, or may not find anything to correct. Finally, a sanitary expert is called in, who usually discovers some serious defects in the drainage arrangements. The tenant is naturally indignant, and asks an explanation. The landlord refers to his plumber, who, when brought to book, admits that he has considered the interest of his employer alone, and made only such improvements as he thought the latter would approve and pay for.

Within a few years there has been a popular *furore* in favor of apartment houses, and numbers of flats of colossal proportions and costly construction have been built and quickly leased at high rentals. These buildings, however, are often no better in their sanitary arrangements than the average private dwellings. As a rule, they are overheated, especially the halls; usually there is inadequate ventilation, dark rooms abound, and the plumbing, while claimed to be of the best, is lacking in many essentials. Lastly, there is great danger from fire in these buildings. In more than one large apartment house wooden stair-ways surround elevator shafts, which, as repeated experience has shown, will serve to convey a fire almost instantaneously from cellar to roof. Again, the very care taken to deaden floors and prevent the transmission of sound will make it difficult to alarm the tenants in case of fire. The fact that insurance companies consider apartment houses as extra hazardous risks tells its own story; and the possibility of a fire in some of these huge structures must be anticipated with a dread which the late conflagration in the Cambridge flat more than justifies.

The sanitary condition of the summer homes of our wealthy citizens at the sea-shore and other health resorts is on a par with that of their city residences, with this difference that the drainage arrangements are usually executed by country plumbers, who are even inferior to city mechanics, while the universal dependence upon leaching, and unventilated cess-pools in proximity to wells and cisterns, is a constant source of danger. The repeated epidemics of typhoid fever and malarial diseases in localities where such conditions prevail, and the fact that visitors are seized with these maladies after their return to the city, are ample evidence of the unhealthfulness of summer resorts. Despite the outdoor life and the exercise which visitors enjoy, it is beyond dispute that the health of the city as a whole is higher than that of the country, and that the risks of a summer spent at so-called health resorts are of a serious nature.

After seeing the ills which beset our wealthy householders in their domestic surroundings, if we visit their counting-rooms and offices, where the male members of the family amass the wealth so lavishly displayed in their homes, still further surprise is experienced. Take any one of the huge buildings down-town, where hundreds of firms with their clerks are daily absorbed in business affairs, and what do we find? Into a vast number of offices the direct rays of the sun never enter, and they are dimly lighted by shafts, by reflectors or by gas. Their sole dependence for air are windows which are rarely opened, and which look upon small, dingy courts or narrow, gloomy streets, from which lofty adjacent buildings exclude all light. Ventilation is scarcely known in these places. Elaborate and costly devices are often provided to carry off foul air, but they constantly fail to act, as there is no provision for pure air or providing heated currents to carry away the impure atmosphere. In the private offices of the heads of firms open fires may give some relief, but steam coils are the main dependence for warmth, and slowly and remorselessly roast the occupants with their dry, unvarying, and debilitating temperature.

Many offices are situated in basements, just over damp cellars; others are off dark, dank halls in close proximity to foul plumbing fixtures; while everywhere the unwholesome fumes from gas-jets, the burnt dust which settles on steam-coils, and the impalpable impurities from samples or goods stored near by, contribute to pollute the atmosphere. Any plumbing is thought to be good enough for business buildings. The wear and tear to which it is exposed from careless clerks and boys, and the neglect of janitors, with the absence of water for flushing, all contribute to make it unwholesome. Furthermore, the sewers are often very bad, in many cases stone drains roughly constructed, without proper pitch or ventilation, and with no means to keep them free from deposits. They were originally intended to carry off surface water, and are wholly unsuited to convey sewage. There is no barrier to prevent sewer air from finding its way into buildings, nor are soil pipes carried through the roof of full size to permit its escape into the atmosphere above. Hence, such buildings are found saturated with sewer-gas, and their occupants, too absorbed in business cares to heed their unsanitary surroundings, learn only too late what are the physical effects of such exposure.

These conditions undoubtedly explain the worn, weary, blanched, and prematurely-aged look of so many business men. The wholesale introduction of steam for heating office buildings threatens to increase the crop of evils just pointed out, and to intensify the nervous strain which Dr. Weir Mitchell and other specialists note as so destructive to health. Our people are starving for want of fresh air, and it is no wonder that the tired broker or merchant, after a toilsome day in his stuffy office, seeks relief in stimulants or becomes the victim of chronic dyspepsia, nervous exhaustion, insomnia, and brain paralysis. Some of the most remarkable examples of unsanitary conditions in my experience have been in business offices, and in more than in one instance in new buildings supposed to have perfect plumbing. In the directors' rooms of wealthy corporations and the private offices of bank and insurance presidents these evils are found in their worst form.

Here, then, are certain facts which are sustained by the steady growth of zymotic disease and by the evidence of many observers, who have had like opportunities with myself to inspect dwellings. The question may pertinently be asked, What are our wealthy citizens going to do about it? Will they continue to pursue the ostrich policy which has prevailed of late years with such direful results? In other instances, when large numbers of people have been threatened with danger, societies have been formed to diffuse knowledge and inaugurate reforms. It would, therefore, seem timely to found an Association for Improving the Condition of the Rich, to send missionaries and to diffuse tracts among the benighted class, who, as has been shown, are exposed to such dangers. Undoubtedly the whole community would be interested in so benevolent a movement, and would contribute liberally toward its support.—*Charles F. Wingate in the North Am. Review.*

PHARMACY AND THERAPEUTICS.

MODERN THERAPEUTICAL TENDENCIES; PURGATIVES AND TONICS; THE APPRENTICESHIP SYSTEM. By J. HENRY BENNET, M.D., Formerly Obstetric Physician to the Royal Free Hospital.

The history of medicine and of therapeutics shows that the treatment of disease and the choice of therapeutical agents are guided and modified by the prevailing doctrines of the day. Any physician who has studied, practised, thought and observed for half a century, or even less, must have passed through these waves of opinion, and have personally witnessed great changes, both in doctrines and in therapeutics.

Such has been my case. I commenced the study of medicine in 1834, nearly fifty years ago, at the age of eighteen, when the antiphlogistic doctrines ruled, and when therapeutics principally consisted in purgatives, bleeding and spare diet. Disease was then thought to be generally sthenic in its type and character, and was considered to require a lowering treatment. Since then, in recent days, doctrine has changed, and with it treatment. Now disease is considered to be generally asthenic, connected with organic debility, with anæmia, and the treatment generally recommended is a sthenic or tonifying one. This change in views is partly founded on an asserted change in the type of disease in general, formerly sthenic, now asthenic. Some of the seniors have made the assertion, perhaps, to cover their own changed therapeutics, while the juniors accept the truth of this view on their authority. We are told, the juniors say, on good authority, that disease, formerly sthenic, is now asthenic, and we accept the statement as one that satisfactorily explains the change that has taken place in therapeutics.

I would state, *in limine*, that my own personal experience does not corroborate the doctrine of the change of type. In my eyes, disease in general is exactly what it was when I commenced to study it, nearly fifty years ago, in 1834. I perceive no difference in the diseases I see and treat, and in the results of treatment, except what is easily explained by the laws of general pathology, and by the progress of medical knowledge. Thus, the type of disease is different in town and in country, in the mechanic and in the agriculturist, in phthisis treated by confinement and starvation, or treated by an out-of-door life and a generous dietary. But such was the case, or would have been the case, in days gone by.

I was educated abroad, in a Parisian college, from seven to nearly eighteen, and duly crammed with Latin and Greek, to my intense self-congratulation throughout life. I find no fault, even now, with the direction given to my youthful energies. No better educational course than classical studies could, or can, in my opinion, be adopted to strengthen and polish the intellectual faculties of a youth with literary tendencies. Without the latter, it is, of course, all but time lost, to pursue such a course of study for ten years. I had three maternal uncles in the medical profession, general practitioners, all three educated at Guy's Hospital. Having decided on pursuing medicine as a career, after a couple of months' amateur attendance at Guy's Hospital, under the guidance of the late Mr. Doubleday, of Blackfriars road, a family friend, I was apprenticed to one of my uncles, Mr. Osmond Tabberer of Repton, Derbyshire, in 1834.

My uncle took me without a premium, discharged his assistant, and said, "You are older than apprentices usually are, you look older than you really are, and, considering the circumstances under which you come to me, I expect you to make yourself as useful as possible, and as soon as possible. On my side, I will do all I can to bring you up to the mark." Mr. Tabberer was a clever, well-informed country surgeon, brought up in the practice from early youth by an elder brother, to whom he had succeeded. He had only been two winters in London previously to passing at the College of Surgeons and at the Apothecaries' Hall, and told me that during those two winters he had principally attended to anatomy and surgery. His knowledge of his profession, which was considerable, although more practical than theoretical, had been acquired all but entirely in the arena in which he had lived and practised. Repton is a large agricultural village, with a well-known free grammer-school.

He was the leading practitioner; he had under his care the village, the school, many circumjacent parishes (it was before the days of unions), many farmers, many agricultural squires, many clergymen, and some noblemen. He was keen-eyed, discreet, judicious, and had the local medical traditions, no doubt, of hundreds of years to guide him. This is one of the great advantages of the apprenticeship system which we, no doubt, are losing through its gradual disappearance. The practical knowledge of one practitioner was handed down to posterity, through his pupils or apprentices, in a plain, forcible manner, which no hospital teaching can replace. Mr. Tabberer was as good as his word. He spared no pains to teach me pharmacy and the rudiments of the profession, supplying me with books and carefully guiding me in my studies.

On my side, I did not either spare myself, being anxious to come up as soon as possible to the standard laid down for me. It was at first a great fall to pass from Sophocles, Euripides and Xenophon, from Virgil, Horace and Tacitus, to the work of a country surgery. I had to learn how to bleed on a cabbage stalk, to draw teeth on a sheep's head (as a preliminary to daily surgery practice in those lines), to make thousands of pills, boluses and powders, gallons of infusions and tinctures. I had to wash bottles every Saturday afternoon, and keep the surgery neat, when it had been swept in the morning. I rather shudder now to think that, before a month had elapsed, I was doing all the dispensing of a large practice, which took me several hours a day; besides the bleeding and tooth-drawing, etc. Then my medical education began. The assistant was gone; and I looked wise, I was told. So I was often put on horseback, and sent long distances, to see how the land lay and report progress; for, what with our parishes miles away, and clubs for men, women and children, there were constant reasonable and unreasonable summonses, at all times and seasons. My visits, however, were not entirely useless, even at first, owing to the rules laid down for my guidance. "In all diseases and complaints," said Mr. Tabberer, "there are three things to do *at first*, in doing which you cannot go wrong: 1, to clear the *primæ viæ:* 2, to stop the supplies; 3, to secure rest. These indications are fulfilled by giving a purgative; by enjoining complete abstinence, with toast-and-water as a beverage; and by sending the patient to bed." The purgative I took with me in the shape of a pill and draught for a man; the same for a woman; the same for a child. Thus armed, I went on my way rejoicing, initiated the campaign on these principles, and brought back a careful report to my uncle, who himself paid the second visit at his convenience. I soon also learned to keep the books. Even now, after fifty years' experience, I know no better practice as the preliminary to scientific treatment in all but every malady.

In the mean while, I studied the cases in my books with ardor and enthusiasm. I used to get up at five o'clock summer and winter, to read. In the midland counties the kitchen fires are always banked up at night, and at five o'clock there is generally a good comfortable fire burning. In winter I rose at that hour, as in summer, and settled myself down with my books before the fire, working on until the servants came down at seven and prepared some other room.

Every case of disease that I saw, medical or surgical, made such a vivid impression on me, that it has remained in my mind ever since as the type of that disease, with its social surroundings—the farm-house, the cottage, the parsonage, the school infirmary—in which it was seen and studied. These impressions have proved much more tenacious than those subsequently received in hospital wards. This must be one of the advantages of the apprenticeship probation. Disease is seen, as it were, in a frame, with surroundings which intensify the impression produced on the youthful mind. Thus also is acquired a practical knowledge of the sick-room, the habit of addressing and communicating with all classes of society, and self-possession under difficulties. Thanks to the judicious training of my uncle, to my own book-ardor, and to constant contact with the sick, I made rapid progress both in theory and practice, and by the end of two years thought myself nearly as clever as he was; I had my own horse, my own patients, and had become a really efficient assistant.

The lessons I learned from Mr. Tabberer during that time were of inestimable value, and have remained a guide and a beacon throughout life. They have left in my mind also a feeling of deep esteem and respect for the well-informed country general practitioner of this or of any country. Full of practical knowledge in medicine, surgery and obstetrics, generally left to themselves in emergencies, the better informed are quite equal to the position, both ready and able to minister to the sufferings of humanity in all their forms, and that without assistance from the medical, surgical, or obstetrical heads of the profession. Such was Mr. Tabberer, and I have since met many like him. Many of those to whom we look up as the legitimate heads of the profession would be very much embarrassed were they called upon thus to undertake, unsupported, the sole charge of one of these large general practices—of a large body of men, women, and children.

The main feature of what I may term the Repton traditional therapeutics was a reliance on purgatives, not only administered at the onset of disease "to clear the *primæ viæ*," but also for the purpose of derivation during treatment. The results of the combination of purgatives, judiciously chosen and blended, in the treatment of disease, were most satisfactory. Indeed, I have never since then seen a more, scarcely as successful, practice, either at home or abroad, either in our own or in Continental hospitals.

At the age of twenty, family ties took me over to Paris, and there I found many of my French college companions studying medicine under conditions so favorable that I determined to do likewise; so I got my uncle to release me from the apprenticeship tie, and began again in that city. There I remained seven years, competing for and obtaining everything that could be obtained by competition (*concours*).

The apprenticeship probation had thoroughly prepared me for hospital studies, and I verily believe that I profited more from the opportunities then afforded than I should have done without it, or than my French companions did. Throughout the seven years, however, that I attended and lived in the Paris hospitals, I saw daily exemplified in the patients the want of the knowledge of purgatives that my general practitioner relative in England possessed to his finger ends. Neither physicians nor surgeons knew how to give and to blend cathartics, salines, and mercurials as he did; and I daily saw symptoms which I could have at once relieved had I been the head instead of the subordinate. No doubt this knowledge existed formerly in France as with us; but, under the influence of Broussaisism, which considered purgatives as dangerous, as producing gastro-intestinal inflammation, they had dropped out of practice. All that was ever given was a saline effervescent called "*limonade purgative*," very rarely even castor-oil. When I could I remedied the deficiency, not without reproof for treating patients *à l'Anglaise* with *des medecines de cheval* (horse-medicines).

Not only did my apprenticeship knowledge thus enable me to see deficiencies in the then system of my French seniors, but it also materially helped me in most of the *concours* or public competitions in which I took part. Thus, in one instance, I came out "*facile princeps*" in an important *concours* in which there were two hundred candidates, in a great measure owing to Reptonian reminiscences. The written ordeal, for which three hours were given, was "The structure of the Skin and Eczema." Now we had had at Repton several cases of chronic eczema which had much bothered my uncle, and which he had handed over to me. So I was well up in the subject, and wrote a regular treatise. The oral ordeal, for which ten minutes was given, was "The Structure of the Liver and Colica Hepatica." It so happened that Mr. Tabberer had in his practice three old sisters above sixty, living together. The doctor's nephew found favor in their eyes; and (poor deluded ladies) they told him that he might send me whenever he liked. One of them had a severe attack of gallstones, for which I attended her all but alone. This case flashed on my mind, and I graphically, impetuously, *ore rotundo*, unfolded the history of colica hepatica and gallstones. Most of my competitors floundered in the (to them) unknown ground, and I was thus doubly victorious.

Since these days, and until now, the judicious but fearless use of purgatives has been an important element in my practice and in my professional success. I constantly succeed in accomplishing what my predecessors have failed to accomplish by their means.

It appears to me that the neglect of their rational use, which I observed in France forty years ago, has gradually extended to England. This change has coincided with the change of doctrine to which I alluded in commencing, which makes nearly all disease asthenic, and to require tonifying treatment, instead of treatment erroneously considered debilitating. I went as a health exile to Mentone in 1859, and ever since have resided and practised there in the winter, and I am now the senior of the twenty-four medical practitioners. This position gives me an admirable opportunity of judging what is the tone of practice at home. Every winter I see the prescriptions of most of our leading practitioners, and now seldom find purgatives prescribed, either cathartics, or salines, or mercurials, in the shape of blue pill or calomel. The therapeutical agencies principally relied on are: Iron, quinine, arsenic and nux vomica, with sedatives and antispasmodics. These tonics are often ordered in cases where the stomach and liver are altogether out of order. Indeed, I remember reading in this very journal some time ago, that the state of the tongue is not a reliable guide in conditions of anæmia, and that tonics and a copious animal-food dietary might be perservered in, even inforced, however furred and brown the tongue might be. Such an axiom is arrant treason in my eyes, and would have made my early instructor, Mr. Tabberer, shudder, had he read it. Many of my juniors, on the other hand, shudder at the name of blue pill and calomel, do not even know how to use them, and never prescribe them; not even in congestion of the liver, or in bilious diarrhœa, under any circumstances. I often follow in their footsteps, after lengthened therapeutic failures, and, guided by Reptonian reminiscences, cure the patients in two or three days by the judicious use of these "awful" medicines, coupled with a little so-called starvation.

I may add, incidentally, that I find active purgation very useful in all hemorrhages, especially in lung-hemorrhage, often succeeding when all the usual styptics, etc., fail. A case I had a few years ago aptly illustrates the powerful influence of purgatives in hemorrhage in general. I was called to a young Russian lady, who was bleeding to death after the extraction of a tooth. She presented the peculiar hemorrhagic constitution so well known, and had already nearly lost her life several times from this cause. The dentist and two or three doctors had been trying every available means, medical and surgical, for forty-eight hours, without success. The mouth and lips were black with the perchloride of iron. They were at their wits' end, and I, myself, the consultant, was puzzled. I bethough me, however, of the influence of purgatives, and gave her an ounce of castor-oil, repeating the dose in a couple of hours. Free purging took place, and the hemorrhage stopped at once, not to return.

In conclusion, I would say that, although I think it will be a loss to future generations of medical practitioners for the practical lessons gained during the old-fashioned apprenticeship to be discarded, I quite admit that it is wrong to intrust important pharmaceutical and medical duties to inexperienced youths such as I was. It would be well, however, to devise some plan by which students, at some period or other, or young graduates, should be encouraged, if not obliged, to pass a year or two as assistants to a general practioner in full practice. Perhaps this cannot be done; but, if so, it is a pity, for our doctors will be less practically efficient than of old, and a vast mine of traditional knowledge will be lost.

An evidence of the want of pharmaceutical knowledge in the rising generation of practitioners is to be found in the advertising columns of this or of any other medical journal. Evidently, the young doctors of the present day do not know how to prescribe, for want of the practical knowledge they acquired formerly as apprentices. The chemists of the present day, equal to the occasion, are providing them with formulæ ready cut and dry, which must be rapidly gaining ground, if we are to judge by these advertisements.

In France, where pharmacy and the art of prescribing are even less studied and known than with us, prescribing is being rapidly reduced to ordering some chemist's formula—So-and-so's iron, So-and-so's chloral, So-and-so's antihemorrhagic solution, So-and-so's quinine, ergotine, digitaline, aconitine, arsenic, etc., in capsules, perles, or syrup. Surely a well-informed medical practitioner ought to know how to combine and prescribe medicinal agents better than his chemist. The latter gains the day with half-educated doctors, by assuming that *he only* supplies the pure thing, the real, unadulterated drug! This system, however, I am told by dispensing chemists, cuts both ways. It diminishes their legitimate profits, although they receive a very large percentage. In France, they get an allowance of fifty per cent. In building up the fortunes of a few large advertising houses, they diminish their own profits. Moreover, the purchaser reads the outrageous advertisements that accompany these "magistral preparations," as the French call them, and commence amateur doctoring on their own account, to the detriment of the sufferers and of the profession.

In conclusion, as regards the practical value of the apprenticeship system, I would refer to a very valuable and exhaustive essay which appeared in this journal a year or two ago, by Dr. Clifford Albutt, of Leeds. It is the recollection of this essay that has led me to give to this paper the form which it has assumed.

CROTON CHLORAL IN NEURALGIC TOOTHACHE.—Dr. Von Kirchbauer

claims to have had great success in treating toothaches that arise from neuralgia, with *butyl chloral* or croton chloral.
He takes:

Croton chloral	1 drachm.
Glycerine	6 drachms.
Distilled water	2½ ounces.
Syrup of orange peel	4 drachms.
Oil of fennel seed	6 drops.

Dose, a tablespoonful, and if the pain continues very violent repeat in an hour.

He applies carbolized and chloralized cotton locally. Equal parts of chloral hydrate and carbolic acid are put in a bottle, and when dissolved prepared cotton is saturated with it. The cotton may be left in the bottle until wanted for use, when a piece is cut off and rolled up in a pellet that is inserted in the cavity of the decayed tooth.

Improved Glycerite of Starch.—The following formula for glycerine ointment is given by Vulpius in the *Pharmaceutische Zeitung*, and is recommended as giving a better preparation than those made according to the old or new German Pharmacopœia:

Tragacanth, powdered	1	part.
Alcohol	5	"
Starch	10	"
Distilled water	10	"
Glycerine	100	"

An Alterative Tonic.—The following, according to the *Medical and Surgical Reporter*, is said to be Dr. Goodell's favorite mixture:

℞.	Hydrarg. bichlor	gr. j-ij.
	Liq. arsen. chlor	ʒj.
	Acidi. mur. dil.	
	Tr. ferri. chlor., āā	ʒij.
	Syr. zingib	℥ij.
	Aquæ *ad*	℥vj.

Sig. Two teaspoonfuls three times daily in water, after meals.

Excessive Axillary Perspiration.—For this annoying condition, Dr. J. R. Seymour (*Lancet*, June 16th, 1883) states that he has found the external application of belladonna liniment, combined with the internal administration of the tincture of the same drug, to be very effectual.

Quebracho Aspidosperma in Dyspnœa.—The *London Med. Record*, May 15th, 1883, says that Mariana y Lanion sums up as follows (*El Sentido Catol. en las Ciencias Med.*, March 1st, 1883): 1. Quebracho diminishes the frequency of the respirations and cardiac contractions. 2. Its action appears to be principally directed to the heart, strengthening and regulating its contractions, either directly or by the influence of the nervous system. 3. This action is evident and immediate. 4. It is the only remedy which has a manifest antidyspnœic action. 5. In nervous dyspnœas it must be tried in a greater number of cases to judge of its action. 6. It probably produces the same effect in dyspnœa from acute affections of the thoracic organs. 7. The prolonged administration produces no alteration in other organs or functions.

REVIEWS.

A Treatise on Therapeutics, comprising Materia Medica and Toxicology, with especial reference to the application of the Physiological Action of Drugs to Clinical Medicine. By H. C. Wood, Jr., M.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System in the University of Pennsylvania, etc. Fifth edition, revised and enlarged. Philadelphia: J. B. Lippincott & Co. 1883.

This edition, demanded so soon after publication of the last, shows that the work has secured the entire confidence and approval of the profession. Whatever arguments and objections may be made against the plan of this work, in making the results of clinical experiments on animals the basis of the teaching of materia medica, and the application of therapeutics at the bedside, the fact remains, that this method of study and treatment has secured the confidence of physicians. This is not the place for making an issue on this subject, or for reviewing the arguments offered pro and con; what is demanded is this, assuming the methods of this book to be reliable or unreliable, what are the merits of the work per se? It may be said in reply that it is the ablest exponent of this method of teaching materia medica now before the profession. Every physician should have it, and this edition of it. It is a necessity, and the volume is a treasure-house of facts. It is beautifully issued.

Sexual Impotence in the Male. By William A. Hammond, M.D., Surgeon-General U. S. A. (retired list), Professor of Diseases of the Mind and Nervous System in the New York Post-graduate School, etc. New York: Bermingham & Co. $2.50.

This book is sketchy and discursive in style, rather than scientific in scope and treatment. It will be read by the non-professional inquirers after Lucinian mysteries, more earnestly and generally than by the physician or surgeon.

There is nothing of pathological value, scope or instruction in the work, and it seems rather to have been written to place on record a few clinical reminiscences, than to present original reflections, or therapeutic suggestions of interest and value.

Many of the causes of impotance are sketchily given, without system or arrangement; the kinds and degrees of impotence are then detailed; some very useful facts and warnings of a missionary nature and significance are given, and then advice, prognostic in character, and semi-therapeutic in nature, with a record of some clinical experience and professional reminiscences closes the work.

There is nothing erotic in the style or diction; nothing objectionable in the record of reminiscences; but there is nothing new in the work, and nothing of professional value.

While this book adds nothing to the high professional reputation of its distinguished author, there is nothing in it to detract from his personal dignity, and it furnishes another of the many evidences before the profession of his literary versatility, and of the extreme facility with which he always uses his pen. It is fairly published.

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M.D., late one of the Physicians to the Pennsylvania Hospital; Consulting Physician to the Children's Hospital, etc.; and William Pepper, M.D., LL. D., Provost and Professor of Clinical Medicine in the University of Pa., etc., etc. Seventh edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co. 1883. Pp. 1055. Cloth, $6; leather, $7.

Dr. Meigs may be styled the Louis of the American profession. The statistics of cases and diseases are used by him as the chief basis of pathology and treatment. His book is full of such material. Statistics are, of course, valuable, but they are exceedingly delusive and often dangerous; the honesty of reporters, their accuracy in diagnosis; age, climate, diathesis, treatment, idiosyncrasy, epidemic influences, local and hereditary causes, etc., will so far influence the results, that he who accepts statistics as his guide must be credulous indeed, often err, and do harm to himself and to others.

The section on diseases of the skin has been much improved.

The work is an honor to its authors, but it is open to severe criticism. It has however reached its seventh edition; it has secured the approval of the profession, and that is a better guide for the reader than he would find perhaps in the views of the reviewer.

HEART-PUNCTURE AND HEART-SUTURE AS THERAPEUTIC PROCEDURES. By JOHN B. ROBERTS, M.D., of Philadelphia.—*Medical News.*

Much of this paper has been already published in this JOURNAL. It is useful and has done much good.

A TREATISE ON DISEASES OF THE EYE.—By J. SOELBERG WELLS, F.R.C.S., Doctor of Medicine of the University of Edinburgh; Professor of Ophthalmology of King's College, London; Ophthalmic Surgeon to King's College Hospital; and Surgeon to the Royal London Ophthalmic Hospital, Moorfields. Fourth American from the third English edition, with copious additions by CHARLES STEDMAN BULL, A.M., M.D., Lecturer on Ophthalmology in the Bellevue Hospital Medical College; Surgeon to the New York Eye and Ear Infirmary; Ophthalmic Surgeon to the Nursery and Child's Hospital, and to St. Mary's Free Hospital for Children. Illustrated with two hundred and fifty-seven engravings on wood and six colored plates. Together with selections from the Test Types of Prof. A. E. JAEGER and Prof. H. SNELLEN. H. S. Lea's Son & Co. 8vo. pp. 846. Price, cloth, $5; leather, $6; half Russia, $6.50.

Dr. Bull, the editor, has rendered this edition superior to any one so far issued. It is a splendid tribute to his dead master, the author. The work has been so often reviewed, and is so well-known, that the announcement of another and an improved edition is all that is necessary. There is much matter entirely new—the comparative value of mydriatics; Moorven's views of sympathetic ophthalmia; the editor's methods of treating depressed scars; Lander's method of blepharoplasty; Sattler's views of trachoma; Priestly's views of glaucoma; the value of the magnet in removing steel particles; the treatment of purulent conjunctivitis of the new-born. The editor calls attention to the use of jequirity in the treatment of pannus and trachoma in his preface, but not in the work. This great work is better than ever.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry and Toxicology in the University of Buffalo; Professor of Chemistry and Toxicology in the University of Vermont; Professor of Physiological Chemistry in the University of the City of New York; Chemist to the City of Buffalo; Member of the Chemical Societies of Paris and Berlin; Member of the American Chemical Society; Fellow of the American Academy of Medicine, etc. Published by William Wood & Co., 56 and 58 Lafayette Place. 1883. Pp. 370.

"The Essentials of Chemistry," a work by the same author, is well known to all, and has deservedly been a great favorite with teachers and students. The present work is much larger, more pretentious, more elaborate and complete, but until the methods of teaching medical chemistry in American medical colleges are entirely changed, this book will be found to be inconveniently discursive, too much developed, and too elaborate. As a scientific work it is very superior and creditable.

ON INDIGESTION AND BILIOUSNESS. By J. MILNER FOTHERGILL, M.D. London: H. K. Lewis.

The author of this work is exceedingly well known. He is the most profuse writer in the profession, and is therefore often discursive, prolix, indefinite, and valueless as an author. He is more a popular writer than a scientific exponent. He writes attractively on the superficial and elementary facts of physiology, but seems to know but little of pathology. He compiles well, but is never original. Yet he induces many to read who would, perhaps, seldom do so.

As to the term "biliousness," no careful or scientific writer would use such a word as a title. It may be used in a general or popular sense, but certainly not by anyone who seeks to be accurate.

One may be "bilious" from torpor of the liver, with obstruction; from torpor of the liver, without obstruction, but from constipation only; with active liver, but with imprudence in diet or drink; with active liver, but with a morbid condition of the lymphatics and of the kidneys; from morbid condition of the blood, under the influence of poisons, liquid, solid or gaseous, etc. If any author selected such a vague term as that used for the title of this book, he would, if unscientific in the name of his subject, be, at least, scientific in its consideration; but there is no evidence of this in any part of the volume. It is simply either an advertisement ("springes to catch woodcocks") or a "potboiler." Perhaps both.

PRACTICAL CLINICAL LESSONS ON SYPHILIS AND THE GENITO-URINARY DISEASES. By FESSENDEN N. OTIS, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. Surgeon to Charity Hospital, etc., etc. New York: Bermingham & Co. 1883. Pp. 600. Cloth, $4.50.

In this work the author seeks rather to offer his individual experience than to offer a treatise on the subjects indicated. Most surgeons are aware of the views of Dr. Otis in connection with medical surgery, and if a polemical writer, his enemies must, at least, admit that his blows given are fully as severe as any that he has received.

The first part of the work treats of syphilis and the genito-urinary diseases, part second of gonorrhœa and its sequels. The views of Dr. Otis as to the nature of gonorrhœa and urethral stricture, the physiological urethral calibre, etc., though not generally adopted, are worthy of close and honest study.

This book is eminently practical, and will become useful to all who are engaged in the treatment of genito-urinary and venereal diseases. The author deservedly ranks among the most distinguished writers and practitioners in his specialty, and his work reflects concisely and fully most of his own views. It is very fairly issued, and the small price asked for it is worthy of attention.

A COMPLETE HAND-BOOK OF TREATMENT ARRANGED AS AN ALPHABETICAL INDEX OF DISEASES. By WM. AITKEN, M.D., F.R.S. New York: Bermingham & Co.

This book is conveniently and compactly arranged. It gives, in brief, the treatment of diseases as found in Aitken's large work. Its use is problematical, but it may have a good result. It is "handy," and is neatly issued.

INSANITY CONSIDERED IN ITS MEDICO-LEGAL RELATIONS. By T. R. BUCKHAM, A.M., M.D. Philadelphia: J. B. Lippincott & Co. 1883.

The chief object of the author in writing this book was to "point out the pernicious uncertainty of verdicts in insanity trials," and the causes and remedy for the same. In order to accomplish this object more completely and satisfactorily, however, he has introduced a large amount of other matter. He begins by demonstrating the uncertainty of verdicts in insanity, and discussing the various definitions of this disease. The next three chapters are devoted to disproving the metaphysical and somatic theories of mind, and to establishing the author's own "physical media theory"—which is that the mind is an incorporeal entity, dependent for its activity upon the brain. A great deal of space is devoted to proving that insanity is a disease of the brain, and not a morbid metaphysical condition. The last chapter on "experts" contains the gist of the work. The nature and function of experts are described. The many failures, troubles, contradictions, and acts of injustice which result from the present medical expert system are faithfully portrayed. The author confidently puts forth a project for removing all these ills. It consists essentially in having a State board of medical experts, composed largely of gentlemen connected with asylums, who shall render their particular services free, the State being paid by the litigant parties. This project, unfortunately, is quite beyond the point to which the people are yet educated. Dr. Buckham has produced a useful book. It contains, indeed, much that is elementary, and its psycho-physiological part, though clearly written, is not marked by originality or depth of thought. Dr. Buckham sets forth some serious abuses, however, in plain and earnest language, and his book will receive serious attention.

WHAT TO DO FIRST IN ACCIDENTS AND EMERGENCIES. A Manual Explaining the Treatment of Surgical and other Injuries in the Absence of the Physician. By CHAS. W. DULLES, M.D., Fellow of the College of Physicians of Philadelphia, etc., etc. Second edition, revised and enlarged, with new illustrations. P. Blakiston, Son & Co., publishers, 1012 Walnnt Street, Philadelphia. 1883.

This book was reviewed when first published. It is a very fair primer, and would be very useful to the "popular" reader. It is of no value to the physician.

HANDBOOK OF ELECTRO-THERAPEUTICS. By DR. WILHELM ERB, Professor in the University of Leipzig. Translated by L. PUTZEL, M.D. With thirty-nine wood-cuts. 8vo. pp. 366. New York: Wm. Wood & Co. 1883.

This is the June number of "Wood's Library." Erb is of course excellent authority on his specialty, and the translation of his work by Putzel is fairly done, The work seems to be digressive in style, and diffuse rather than comprehensive in scope. Like all in this field, the author is an enthusiast in electro-therapeutics, and evidently believes that, with such means at hand, euthanasia must be from senility. It is a fair work.

OBSERVATIONS ON LITHOTOMY, LITHROTRITY AND THE EARLY DETECTION OF STONE IN THE BLADDER; WITH A DESCRIPTION OF A NEW METHOD OF TAPPING THE BLADDER. By REGINALD HARRISON, F.R.C.S., etc. 8vo. pp. 74. London: J. & A. Churchill. 1883.

It is pleasing to find so great an authority as is Reginald Harrison not failing (as do so many of his countrymen) to do justice to American surgeons. Gross, Keyes, Van Buren, Parker, Gooley, Otis, and others, are honorably mentioned. The book is dedicated to Dr. Gross. The work is chiefly valuable to experts

Most of the work is given to a consideration of lithotrity, which is warmly advocated by the author, and is preferred by him and most English surgeons to lithotomy. The author's views are based chiefly upon his sixty operations.

What Shall We Do for the Drunkard? A rational view of the use of Brain Stimulants. By Orpheus Everts, M.D., Superintendent Cincinnati Sanitarium; late Superintendent of the Indiana Hosptial for the Insane, etc. Cincinnati: Robert Clarke & Co. 1883.

An interesting and instructive pamphlet.

Anatomy, Descriptive and Surgical. By Henry Gray, F.R.S., Fellow of the Royal College of Surgeons, &c., with an Introduction on General Anatomy and Development by T. Holmes, M.A., Cantab. With drawings by H. V. Carter, M.D. Edited by T. Pickering Pick, Surgeon to St. George's Hospital. A new American from the tenth English edition. To which is added Landmarks, Medical and Surgical, by Luther Holden, F.R.C.S., with additions by William W. Keen, M.D. 8vo. pp. 1,023. Philadelphia: Henry C. Lea's Son & Co. 1883.

This great work has been, with this edition, very greatly improved. "Microscopical Anatomy" has been treated more at length, and much new material has been added to this department. Several new "cuts" have been added, and some of the old ones that were inaccurate have been withdrawn. It is the best work on anatomy that has ever been published.

A Practical Treatise on the Medical and Surgical Uses of Electricity: including Localized and General Faradization; Localized and Central Galvanization; Franklinization; Electrolysis and Galvano-cautery. By Geo. M. Beard, A.M., M.D., Fellow of the New York Academy of Medicine, etc.; and A. D. Rockwell, A.M., M.D., Fellow of the New York Academy of Medicine, Electro-Therapeutist to the Woman's Hospital, etc., etc. Fourth edition. Revised by A. D. Rockwell, M.A. With nearly two hundred illustrations. New York: William Wood & Co. 1883. 8vo. pp. 758.

This is perhaps the best and most useful work on this subject before the profession. It is comprehensive in scope, very simple and lucid in diction, and particularly plain and practical in the therapeutical portions of the work. It is too well known to justify further notice.

Our Little Ones and the Nursery. Monthly. Pp. 32. $1.50 per annum. The Russell Publishing Co., 36 Bromfield st., Boston, Mass.

This is a good journal for children. It is fully illustrated, and many of the pictures are works of art. It is printed on good paper, so as to withstand the wear and tear of much handling, and makes a handsome volume.

A History of Tuberculosis from the Time of Sylvius to the Present Day, being in part a Translation, with Notes and Additions, from the German of Dr. Arnold Spina; containing also an Account of the Researches and Discoveries of Dr. Robert Koch and other Recent Investigators. By Eric E. Sattler, M.D. 12mo. pp. 191. Cincinnati: Robert Clarke & Co. 1883.

It is a great privilege for the American reader who is not a German scholar to be enabled in this volume to read the valuable views of Spina on tuberculosis. The work of Dr. Sattler would have greater value if he had translated the whole of Spina's work, but the translation may almost be said to be fragmentary and to tantalize the reader, who involuntarily cries for more. Most of the book is simply and solely a translation of Spina's large work; the original portion of the volume is that in which the author, Dr. Sattler, gives an account of Koch's early (not latest) experiments, with a cursory notice of the experiments of others. It is a useful and interesting book, but one which has and must have chiefly and ephemeral value.

TYPES OF INSANITY. An Illustrated Guide in the Physical Diagnosis of Mental Disease. By ALLAN MCLANE HAMILTON, M.D., one of the Consulting Physicians to the Insane Asylums of New York City and the Hudson River State Hospital for the Insane, etc. New York: William Wood & Co. 1883. 4to. pp. 56. 10 plates.

THE TREATMENT OF RETAINED PLACENTA AFTER ABORTION. A paper read before the Indiana State Medical Society, May, 1883, by HIRAM VON SWERINGEN, M.D., Ft. Wayne, Ind.

The writer does not believe in any forcible measures being resorted to for delivering the retained placenta. He prefers to wait. The work includes a discussion of electrical apparatus, a brief discussion of electro-therapeutics, and details of cases. It is not elaborate enough to be of great value to the practitioner.

A CASE OF MELANOSIS. By WM. H. FALLS, M.D., Cincinnati, O. Reprinted from the *Cincinnati Lancet and Clinic*, November 16, 1883.

An excellent report, fully illustrated, of a very rare disease.

ELECTRICITY IN MEDICINE AND SURGERY. By GEO. C. PITZER, M. D., Professor of Theory and Practice of Medicine in the American Medical College, St. Louis. Second edition. St. Louis. 1883.

This book was reviewed when it first appeared. It is a plain and practical exposition of the subject; very elementary, but useful, perhaps, to many. The diction needs careful revision. Much superfluous matter could be omitted. The descriptions of machines are unnecessary. The scope of the work should be enlarged. The cases are interesting.

BOOKS AND PAMPHLETS RECEIVED.

From William Wood & Co., 56 and 58 Lafayette Place, New York.

A TEXT-BOOK OF GENERAL PATHOLOGICAL ANATOMY AND PATHOGENESIS. By Ernest Ziegler, Professor of Pathological Anatomy in the University of Tubingen. Translated and edited for English students by Donald McAlister, M.A., M.B., Member of the Royal College of Physicians; Fellow and Medical Lecturer of St. John's College, Cambridge.

THE TREATMENT OF WOUNDS—ITS PRINCIPLES AND PRACTICE, GENERAL AND SPECIAL. By Lewis S. Pilcher, A.M., M.D., Member of the New York Surgical Society. With one hundred and sixteen wood engravings.

THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY. By R. A. Witthaus, A.M., M.C., Professor of Chemistry and Toxicology in the University of Vermont; Professor of Physiological Chemistry in the University of the City of New York; Chemist to the City of Buffalo, etc.

TYPES OF INSANITY. AN ILLUSTRATED GUIDE IN THE PHYSICAL DIAGNOSIS OF MENTAL DISEASE. By Allan McLane Hamilton, M.D., one of the consulting physicians to the Insane Asylums of New York City, and the Hudson River State Hospital for Insane, etc.

THE MEDICAL STUDENT'S MANUAL. Williams.

MANUAL OF PRACTICAL HYGIENE. Parkes.

BRIGHT'S DISEASE. Millard.

From Bermingham & Co., 28 Union Square, New York.

THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF THE DISEASES OF WOMEN. By Graily Hewitt, M.D. (Lond.), F.R C P., Professor of Midwifery and Diseases of Women University College, and Obstetric Physician to the Hospital, formerly President of the Obstetrical Society of London; Honorary Fellow of the Obstetrical Society of Berlin, etc. Edited, with Notes and Additions, oy Harry Marion Sims, M.D., Attending Surgeon to St. Elizabeth's Hospital, New York, etc. Two volumes. Price, $2.25 per volume.

AN ENCYCLOPÆDIC INDEX OF MEDICINE AND SURGERY. Edited by Edward J. Bermingham, A.M., M.D. Price, sheep, $6.00; cloth, $5.00.

INSANITY, ITS CLASSIFICATION, DIAGNOSIS AND TREATMENT. A manual for students and practitioners of medicine. By E. C. Spitzka, M.D., Professor of Medical Jurisprudence and of the Anatomy and Physiology of the Nervous System, at the New York Post Graduate School of Medicine; President of the New York Neurological Society, etc. Price, $3.00.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR. By Oren D. Pomeroy, M.D., Surgeon to the Manhattan Eye and Ear Hospital; Ophthalmic and Aural Surgeon to the N. Y. Infant Asylum; Consulting Surgeon to the Paterson Eye and Ear Infirmary, etc. Price, $3.00.

A PRACTICAL MANUAL OF THE DISEASES OF CHILDREN, WITH A FORMULARY. By Edward Ellis, M.D.; Late Senior Physician to the Victoria Hospital for Sick Children; Late Physician to the Samaritan Hospital for Women and Children, etc. Fourth Edition, revised and enlarged. Price, $1.00.

A COMPLETE HAND-BOOK OF TREATMENT, Arranged as an Index of Diseases to Facilitate Reference, and Containing nearly One Thousand Formulæ. By William Aitken, M.D. (Edin.), F.R.S., Professor of Pathology in the Army Medical School; Examiner in Medicine for the Military Medical Services of the Queen, etc. Price, $2.50.

IMPOTENCE IN THE MALE. By William A. Hammond, M.D., Surgeon-General U. S. Army (Retired List); Professor of Diseases of the Mind and Nervous System in the New York Post Graduate Medical School, President of the American Neurological Association, etc., etc. Price, $2.50.

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ELEMENTS OF HISTOLOGY. E. Klein, M.D., F.R.S., London, Eng.

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THE OFFICIAL CORRESPONDENCE between Surgeon-General Wm. A. Hammond, U. S. A., and the Adjutant-General of the Army. New York.

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PROCEEDINGS OF THE NAVAL MEDICAL SOCIETY. Washington, D. C. Nos. 1, 2, 3, 4.

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THE THERAPEUTIC ACTION OF POTASSIUM CHLORATE. By Dr. John V. Shoemaker, Philadelphia, Pennsylvania.

UNITED STATES PROFESSIONAL COURT. W. P. Gibbons et al., vs. J. H. Bundy—Quackery and Pretension. Record—Detroit, Michigan.

CLOSING EXERCISES OF THE PRACTITIONER'S COURSE OF LECTURES DELIVERED IN THE SPRING OF 1883, IN THE HAHNEMANN MEDICAL COLLEGE AND HOSPITAL, OF CHICAGO, ILLINOIS.

DEVELOPMENT OF CANCER FROM NON-MALIGNANT DISEASES. By Dr. D. Lewis.

AN IMPROVEMENT IN THE PREPARATION OF MEAT TO BE USED AS FOOD. By Dr. R. J. Nunn, Savannah, Georgia.

PLACENTA PREVIA. By R. J. Nunn, Savannah, Georgia.

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COLLEGE OF PHYSICIANS AND SURGEONS, Medical Department of Columbia College in the City of New York. Seventy-Sixth Annual Catalogue and Announcement.

AN EPHEMERIS OF MATERIA MEDICA, PHARMACY, THERAPEUTICS AND COLLATERAL INFORMATION. By Drs. E. R., E. H. and Ch. F. Squibb, Brooklyn, New York.

TRIFACIA NEURALGIA. By Dr. A. Van Derveer, Albany, New York.

MCGILL UNIVERSITY, MONTREAL. Fifty-first Announcement of the Faculty of Medicine, Montreal.

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TUBERCLE. By Dr. N. Senn, Milwaukee.

SIXTEENTH ANNUAL REPORT OF THE FREE HOME FOR DESTITUTE YOUNG GIRLS, NEW YORK CITY.

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NOTES ON FINZELBERG'S PURE SOLUBLE PEPSIN. Prepared exclusively by H. Finzleberg's Nachfolger, Chemical Laboratory, Audernach on the Rhine.

GOUT IN ITS PROTEAN ASPECTS. Fothergill. Geo. S. Davis, Detroit.

HOLMES MEDICAL ESSAYS. Houghton, Mifflin & Co., Boston, Mass.

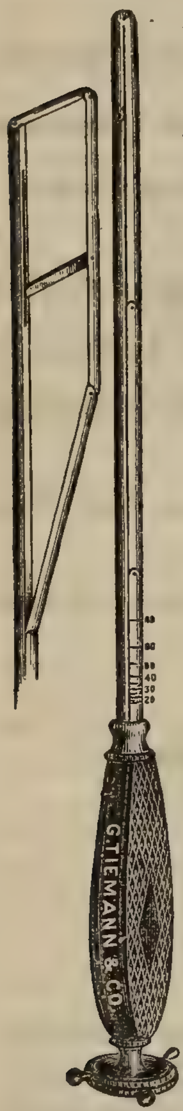
VISITING LISTS. From R. Walsh, Washington, D. C.; C. H. Leonard, Detroit, Mich.; Wm. Wood & Co., N. Y.; Lindsay & Blakiston, Philadelphia; H. C. Brinton, Philadelphia.

MISCELLANEOUS.

THE EMPLOYMENT OF THE INSANE.—In his report on the South Yorkshire Asylum at Wadsley, near Sheffield, Dr. Mitchell, the medical superintendent, remarks that much might be done in promoting not only the bodily, but the mental health of the insane, if a greater number of men could be induced to employ themselves. Wanting the familiar stimulus of wages, however, many obstinately refuse to begin work, saying that they have never worked without remuneration before, and will not do so now. The practice of paying the working patients a small proportion of the value of their labor has been found to answer well in prisons and at the State Asylum, at Broadmoor, Eng., and would no doubt meet with equal success in other lunatic asylums generally, were it fairly tried in them. The Commissioners in Lunacy, to whom Dr. Mitchell referred the question of paying patients a small proportion of the value of their work, doubt whether an expenditure under this head could be legally sustained, in the event of objection by guardians or others who have to defray the cost of maintenance.

NOTCHED TEETH.—In a paper read at the Société de Chirurgie of Paris, M. Magitot lately called attention to the notching and erosions of the teeth in inherited syphilis, and on the relations of this disease to rickets. He thinks that the notch is not characteristic, and states that it is never found in some races frequently affected by syphilis, such as the Japanese and Peruvians. According to Magitot, no only inherited syphilis, but also all other serious troubles of nutrition, may cause diminution in the number and size of the teeth, or delay in the period of their eruption, but never erosion.

A New Uterine Dilator.—By A. Andy, M.D., West Liberty, Iowa.—In performing Ball's operation upon the flexed uterus, for the relief of that intractable form of dysmenorrhœa which is due to those flexures and contraction of the cervix, I found the dilators in common use to work very imperfectly, and suggested to Messrs. Tiemann & Co. that they construct one that would have sufficient force with the blades opening parallel to each other, by the aid of two brackets moved by a screw through the handle. They soon manufactured the beautiful, neat and efficient instrument represented by the accompanying woodcut. I found instruments opening by one bracket, near the point, to be of sufficient force, but when open they were much wider at the point than anywhere else, and, in spite of the efforts of the operator, would ascend to the fundus of the uterus, and in order to produce the proper dilatation, had to be dragged through the cervical canal by pulling upon the handle, a procedure that was likely to cause more or less laceration of the external os. Those wherein the brackets were set back some inches from the point, the blades would spring together at the point and slip out, unless they were serated, which increased the danger of laceration and unfitted the instrument for many other uses that the above dilator may be used for. I have found it all that I could desire in dilating the flexed and contracted cervix uteri. This instrument exerts great force with surprising ease to the operator. Those who have been in the habit of using any of the various dilators, might easily produce laceration with this, but for the scale of figures on the handle, which give a sure index to the width the blades are opened.



The Toughest Brain on Record.—Charles Rheimer, a youth of seventeen, of No. 98 Sumter street, Brooklyn, can lay claim to the possession of the toughest brain recorded in the annals of surgery. A month ago he fired a bullet from a 22-calibre Smith and Wesson several inches into the centre of his reasoning faculties, where it still remains. He has fully recovered to all appearances, and has gone back to his work in this city. On Sunday morning, Oct. 28, he discharged his revolver accidentally, the bullet entering his head above the left ear. His brother found him clinging to the door-handle and bleeding profusely. Drs. Solon F. Bliss and J. Nehrbas were summoned, and found that the bullet had taken a downward course as near as possible through the very centre of the cerebrum. The wound was probed to the depth of three inches without finding the bullet. The next day the probe found the ball at a depth of six inches. The physicians did not dare to disturb the bullet, lest it should hasten death, which they regarded in any event as inevitable. There was little inflammation and within two weeks the ball became encysted and the wound healed up. The patient has now apparently quite recovered, with unimpaired mental faculties. The physicians consider him out of danger. The case of young Rheimer, though phenomenal, is not altogether without precedent.

Malaria on the Hudson. The Disease Attributed to the Construction of Railway Embankments.—Albany, N. Y., Dec. 10.—The committee of the State Board of Health on drainage, sewerage, and topography have made an investigation of the causes of malaria at Rhinebeck and other places along the Hudson River. In their report they say:

"It is a popular impression that the embankment of the Hudson River Railroad, cutting off as it does many shallow coves from full and open connection with the main current, has acted as the principal cause in producing malaria along the east bank of the river. While medical records show that malarial fever has prevailed to a greater or less extent in some localities along the Hudson for the past 100 years, and that, therefore, the building of the railroad along the banks of the river cannot have been the only condition favoring the development of this disease, it is yet true that in certain places the building of the embankment has induced these conditions, which favor the production of malaria. In other places the railroad embankment has undoubtedly protected the character of the shore, covering up and filling in shallow margins that would have exposed muddy places to the action of the sun at low tides. Half a mile north of the station at Rhinebeck the Hudson River embankment cuts off from the main channel of that river a narrow cove some 2,000 feet long. The narrower part of this cove is from 200 to 300 feet wide; the broader part was originally 600 feet wide. The water is from 4 to 6 feet deep through the greater part of its area at high tide. The Hudson River Railroad constructed a culvert of about 12 feet wide through their embankment some 400 feet north of the State dock and opening into the northern half of the cove. A few years ago the Hartford and Connecticut Western Railroad built an embankment across a part of the southern half of the large cove and the whole pond is now divided into three coves. There are a number of dwellings along the shores of the cove, and within 1,500 feet of the bank in which malaria occurs. The Board of Health found the culvert leading into the inner cove broken down and filled up so as to admit the flow of only a little water. In parts of the cove there is in summer a rank growth of vegetation, the decay of which causes offensive emanation likely to produce disease."

The Committee recommend "that the Hudson River and Hartford and Connecticut Western roads build a culvert not less than 10 feet broad through the Hudson River embankment as near as practicable to the southern end of the cove, and a culvert not less than four feet wide through the bank of the Hartford and Connecticut Western Company into the eastern cove. It is the opinion of the State Board of Health that the malaria reported at other points on the river is due to similar causes, the railroad embankments preventing the proper flow of the water in and out of the coves thus formed.

THE PERCENTAGE OF CHLOROFORM IN THE BLOOD OF AN ANÆSTHETIZED ANIMAL.—MM. Grébaut and Quinquand have determined the percentage of chloroform in the blood of an animal narcotized by that agent, by distilling in vacuo the chloroform from the blood, and then determining its percentage by the power possessed by the chloroform of reducing the cupro-potassic test, in the same way as the percentage of sugar is determined in a liquid, it having been found that 18.7 C.c. of a solution containing 0.005 grm. of chloroform will reduce 0.3 C.c. of Barreswil's solution.

In seven experiments conducted after this method they found that the average quantity of chloroform present was 1 grm. for every 2,000 C.c. of blood, the actual figures ranging from 1,800 to 2,181 C.c. From this they conclude that the anæsthetic dose of chloroform is 1 grm. of chloroform for every two litres of blood, or 1-2000.

Other analyses have shown that the fatal dose of chloroform is extremely near to the anæsthetic dose—an additional fact pointing to the danger of employing chloroform as an anæsthetic agent.—*La France Médicale*, October 13, 1883.

Ligature of the Common Iliac.—Kümmell also reported a ligation of the common iliac, made necessary by secondary hemorrhage four days after extirpation of a bubo. The external iliac was first tied, and ten days later the common trunk. Gangrene followed this latter procedure, and necessitated amputation at the hip. The patient finally recovered. He had found statistics of fifty-five cases of ligature of the common iliac, mostly by English and American surgeons; of the three reported from German sources all died. Altogether forty-one were fatal through gangrene, collapse, or septic processes.—*Annals of Anatomy and Surgery.*

Compulsory Attendance on Lectures.—In May last the Branch Medical Council for Ireland sent to each of the five licensing bodies in its division of the kingdom the following recommendation of the General Medical Council: "That no certificate of attendance on lectures be accepted from any student unless it certify, under the hand of the lecturer, that the holder has attended not less than two-thirds of the total number of the lectures delivered by him." Having considered the replies received from the several medical authorities, the Registrar of the Branch Council, Dr. Heard, has been directed to make public the announcement that the Branch Council has received full assurances from all the medical authorities in Ireland that they are prepared to enforce the recommendation of the Council with respect to the attendance of medical students on lectures.

MEDICAL NEWS.

Dr. H. H. Kane of this city has been expelled from the Medical Society of the County of New York.

A journal has been started in Paris called the *Daily Medical Journal.* As its name indicates, it is to give daily information of the progress of medicine. The subscription price is forty francs a year. The establishment of a similar journal in this country might go very far toward satisfying the wants of those practitioners who feel restricted in not being allowed to advertise in the daily papers. No objections could be raised to an advertisement in a daily medical journal.

Paralysis of the Palate after Throat Disease.—Three cases are now under treatment in the hospital here, two of them being sequelæ of diptheria, and one having followed *mycosis tonsillaris.* The treatment employed comprises strychnine sulphate internally, and the induction current to the paralyzed muscles.

New Haven's Sanitary Condition.—New Haven, Conn., Dec. 12.—Prof. Brewer, of Yale College, says there is not an unusual proportion of typhoid fever among the 1,100 students of that institution. There were no drains near the pumps where the students drank, and at best well water is not so healthful as city water. Health Officer Lindsley ascribes the prevalence of typhoid fever in New Haven to neglected vaults and the absence of sewers in many streets. Other physicians ascribe the trouble to New Haven harbor, and insist that it needs dredging instead of a breakwater. The condition of the city's health excites alarm, and active measures will probably be taken to remedy existing evils.

The Sanitarian.—Its editor says: "Accepting the general expression of satisfaction with the previous monthly form as being better adapted to our field of labor than any other, it is our purpose to resume the monthly issue in octavo form, but enlarged to 96 pages." And so the "weeklies" go back to the monthly form. It is manifest that it is only the news department of a journal which is affected by being issued in monthly form.

Dr. John B. Hamilton, of the Marine Hospital Service, has been elected Professor of Surgery in the Medical Department of the University of Georgetown.

Pasteur Interviewed.—The three surviving members of the Pasteur mission have just returned from Egypt and are preparing an elaborate report which will be presented to the Minister of Agriculture, whose department includes questions of public health. Meanwhile M. Pasteur has been interviewed, and it appears that he is at once pleased and disappointed with the results of the expedition. He is disappointed because M. Thuillier and his colleagues were not able to inoculate any animals with the cholera germ, which it is impossible to discover clearly in human cases. Indeed, M. Pasteur almost despairs of final success until he can find some man of sufficient public spirit to deliver himself over as a subject for experiments of this kind. Meanwhile M. Pasteur gladly recognizes that the mission has done much useful work, and has limited the field of future inquiries. But M. Pasteur is a patriot as well as a savant, and his chief cause of satisfaction is said to be that if his mission has done little, the German mission has done less; but this is a sentiment which one may with some confidence attribute to the interviewer rather than to M. Pasteur himself.

An imitation of Horsford's acid phosphate having been placed upon the market, the Supreme Court of Rhode Island, in July, 1882, enjoined its further sale in any package which was a substantial or colorable imitation of Horsford's preparation. This injunction was violated, and the Court, on the 24th of September, 1883, issued a writ of attachment against the parties, and fined them three hundred dollars each.

Dr. Willard Parker.—Dr. Willard Parker has been seriously ill for some time past. His son, Dr. Willard Parker, Jr., says that the chances of his recovery are good, his strong constitution being greatly in his favor. His disease is pyelitis of the right kidney.

A new weekly medical journal is to be started in Edinburgh called the *Edinburgh Clinical and Pathological Journal.*

Edinburgh University.—Last year the students at the Edinburgh University numbered 3,340. When its new buildings are completed it will be the largest university now existing.

Lepers.—The smallpox hospital of San Francisco is filled with lepers. The papers of that city advocate the building by the Government, on an island, of a lazaretto, where all cases of leprosy throughout the country might be removed.

The Philadelphia County Medical Society has again rejected female candidates for membership.

THE *Drug News* states that Dr. Brandini, of Florence, has recently discovered that citric acid will assuage the violent pain which is the usual concomitant of cancer. He applies to the part pledgets of lint soaked in a solution of four grains of the acid in three hundred and fifty grains of common water, with the result of affording instantaneous relief.

THE Editor of the *Pittsburgh Medical Journal* has suspended his journal during his trip to Europe.

THE UNITED STATES MEDICAL COLLEGE—DECISION BY THE SUPREME COURT.—The decision handed down by Judge John R. Brady, of the Supreme Court, in relation to the case of the so-called United States Medical College, represented by Dr. Robert A. Gunn and others, is that this college has no right to grant diplomas or degrees.

CREMATION.—The immense crematory at Rome is in almost daily use. Cremation is becoming daily more popular, and bids fair soon to dispose of more corpses in the Italian capital than does the old-fashioned burial.

A BRONZE STATUE TO DR. GALLAUDET.—At the National Deaf-Mute Convention, during its session in this city, resolutions were passed to erect a bronze statue of Dr. Gallaudet on the grounds of the National Deaf-Mute College in Washington, on the occasion of the centennial celebration of the birth of the philanthropist in December, 1887, and a committee of fifteen was appointed for the purpose.

OYSTERS.—" The conduct of Pope Gregory in reducing the number of leap years in every century was unquestionably due to his strange antipathy to oysters. As recorded by several historians, the Pope was a heated partisan of the clam, which during the early part of his pontificate was first introduced into Italy as a rival to the oyster. However, one should be thankful that Pope Gregory did not go to the extreme of removing the 'r' from all the months in the year, and thus virtually abolishing the oyster from the face of Christendom."

THE GARFIELD MEMORIAL HOSPITAL.—The statement having lately been made that the plan of establishing the hospital had been abandoned for lack of support, all are glad to learn, on the authority of a member of the hospital board, that the report is untrue. A piece of property has been obtained at the head of Tenth Street, in Washington, on which there is a brick building, which, it is thought, can be made available for hospital purposes by some alterations and additions. The latter are to be carried out under the superintendence of Surgeon J. S. Billings, of the army.

THE PATRIARCH CHEMIST—On September 1, M. Chevreul, the Nestor of chemists, completed his ninety-eighth year of age. He was born at Angers, in the night of August 31, 1876. At the early age of 20 years he was conservator at the Museum. Among his great discoveries in chemistry, figure prominently the separation of the fat bodies and the chemical constitution of oleine, stearine, and margarine. To him is also due the doctrine of the contrast of colors, of their shades, and of he determination of shades.

PROF. J. LAWRENCE SMITH, the distinguished scientist and analytical chemist, died at his home in Louisville, Ky., October 12th, of scirrhosis of the liver, at the age of sixty-five. He was a native of South Carolina, was educated at Charleston College and the University of Virginia. He retired from active pursuits some years since on account of bad health, incident to the disease which caused his death. Few Americans have been more reputable at home, and perhaps none have received equal honors abroad. On the death of Sir Charles Lyell, of London, Dr. Smith was elected to the vacancy caused thereby in the Academy of Sciences of France.

WINNIPEG MEDICAL COLLEGE.—A meeting of the Winnipeg medical profession has been held recently for the purpose of taking steps towards the formation of a medical college there.

FRIGHTFUL MORTALITY OF FOUNDLINGS.—Ottawa, Nov. 19.—The City Council to-night adopted the report of the Medical Board appointed to investigate the cause of the alarming mortality in the foundling hospital kept by the Grey Nuns in this city, known as the Bethlehem for the Friendless. The board, in recommending that the institution be closed, called attention to the fact that out of 739 infants admitted since October, 1879, 644, or 87 per cent., died. The largest rate of mortality was in 1882, when 97½ per cent. of those admitted died. A copy of the report has been sent to the Attorney-General of the Province, as the institution is subsidized by the Provincial Government.

THOMAS STORY KIRKBRIDE, M D., Superintendent of the Pennsylvania Hospital for the Insane, died December 17th. Dr. Kirkbride suffered a protracted illness about four years ago, from which he never fully recovered. Last spring he was again prostrated, and never rallied to any hopeful extent. During the last few weeks there were periods of temporary improvement, and he was able to drive around the grounds that have been the scene of his life's work. For more than forty years his name has been familiar to the medical world as associated with the study of insanity. He was born in that State, near Morrisville, Bucks County, July 31st, 1809.

EDITORIALS.

END OF VOLUME THIRTY-SIX.—When this JOURNAL reached the end of its first volume, there was given a long editorial, full of self-congratulation and promises and plans. At the end of the fifth year, the editorial was more temperate and calm. At the end of the tenth year, the success of the JOURNAL called forth only sincere thanks; the plans and promises were left in the background. And so it has been since; so that now, at the end of this the thirty-sixth volume, experience whispers that it is inexpedient to make promises; that plans are interesting only as they are executed and not foreshadowed; and that self-gratulation is in bad taste and to be absolutely avoided. There is now only one sentiment in this paper which is to be found in that which was written in December, 1866, and that is the sincere thanks offered to the many and devoted friends who have been so kind, so indulgent, and so true.

Very many of the present subscribers have had every Journal that has been issued, and still wish it sent. Many of those who read its first and early numbers have long gone to rest. Many who read each number now were curly-haired boys, around the mother's knee, when the work was commenced. There are then gathered as readers, the old, the mature, and the young. To each and all there is but one offering to make, and a sincere offering, that of thanks for their indulgence and support.

Nearly twenty years ago, the uppermost aspiration was to fill the Journal with original matter, but years have taught that this was unwise and erroneous. Now, the desire is to fill the work with what is best, most instructive, and most useful. To do this is the only promise made in closing volume thirty-six. It is the only guide in the management and "make-up" of the work. And so it enters on a new year and a new volume.

The Sanitary Department has, it is a pleasure to say, been received as a material addition to the interest and usefulness of this Journal. It will be conducted with great care and continuously improved.

Notice.—This Journal was delayed when it was converted into a monthly, in July last, and has been late in issue for several numbers as a result. The January number will be mailed early in that month; the February number will be mailed at the latter part of January, and the Journal for each month will then be mailed *during the latter part of the month previous.* Every effort will be made to improve the work and make it welcome to its supporters.

Proceedings of Societies, if mailed to this Journal, will be promptly published. The reports must be confined strictly to papers and debates on scientific subjects.

The Medical and Non-Medical Publishers of Medical Journals.—The non-medical publishers of medical journals, at this season of the year, are almost all making their usual assertions and ludicrous boasts. Each house is issuing "the best journal;" each one "has the largest circulation;" each is most lavish in outlay; each has "the best contributors," "corps of reporters," "best readers," etc. It is all the "Comedy of Errors," which every year is enacted at this season.

If medical publishers of medical journals were to indulge in such boasting and empty gasconade, they would be drummed out of the profession, and they would deserve such treatment. Now and then a medical publisher so errs, but the error, however great, is rare.

The Index Medicus will be abandoned, unless 500 subscribers will pay $10 each, or 417 subscribers $12 each. It costs now $5,000 a year to issue the work. The receipts are only $3,600; making the annual loss $1,400. Will not societies take several copies each, and the present subscribers pledge $10 instead of $6 each, as at present? Unless this is done, this work, so creditable, and useful, must be abandoned.

Curious Life Facts as to New York City.—Were it not for the daily influx of immigrants from sister States and from Europe, the doom of this great city would soon be written. It is many years since the number of births has not been far exceeded by the number of deaths. During the year 1882 there were 27,321 births, but 37,951 deaths! The deaths exceeded the births by 10,630, or by nearly 39 per cent!

This startling fact is due to many causes.

Marriage is becoming more and more rare in this city. The proportion of bachelors and young women to the population was never so great. Men with handsome salaries are unable to marry; they cannot afford it, for the women of America, by their extravagance in dress and life, have made this impossible for more than a small percentage of men. Celibacy is the rule born of this conspicuous and wanton extravagance. Few men, therefore, can marry, and unmarried women in almost every household are now paying the life penalty for their extravagances by making married life for most of them impossible. Marriages then are comparatively rare indeed in such a population.

Again, when marriage does take place, society will forgive in the wife almost every condition but that of fertility! Sterility in the wife no longer makes her "a reproach among women;" she, in this condition, becomes rather the "bright particular star," "the glass of fashion and the mould of form, the observed of all observers." Natural sterility in her is socially forgiven. So is even artificial sterility; so also is the prevention of conception by many of the most familiar methods. The destruction of "conception" is not unforgiven: but the imprudent victim of fertility is the victim of the quiz-glass, of the social smile, and the shoulder shrug! Births are infrequent indeed under such a régime and under such circumstances; and, added to such facts, the increased cost of living in a family where fertility prevails induces many of the poor to avoid all natural additions to the family circle. Sterility is fostered, encouraged, even socially admired; and, as the result, the deaths exceed the births by about 39 per cent!

ARE BITTERS WHISKEY OR MEDICINE?—The standing of Hostetter's bitters as a beverage or medicine has worried the Internal Revenue Bureau for some time. It now appears, from a chemical analysis, that the bitters contain 32 per cent. of alcohol, or 65 per cent. of proof spirits, equal to 82 per cent. of common whiskey. This discovery raises a strong presumption in the mind of Commissioner Evans against the medicinal character of the compound, but he has decided not to decide; that is, he informs the manufacturers that persons who sell it as a beverage must pay the retail liquordealer's license tax, and those who sell it as a medicine need not, the case of each seller to be considered on its own merits. The number who sell it as a "medicine" is marvellous. The Commissioner, it is said, cannot cross a fence; when on the top rail it is impossible for him to decide how he will jump. As a judicial officer he is quite a success. At least, so say the druggists.

A PATH TO DISTINCTION.—The *Planet*, of New York (ceasing to shine by its own light), reflects as follows the doings of the profession in this city: "New York is at present filled with 'celebrated doctors;' the trouble is to find out who is not the most celebrated. Almost every doctor is writing a book; writing for a half-dozen medical journals simultaneously, especially *Hay's Journal;* if not writing a book for himself, is helping to write a book for some other doctor; is contributing articles to encyclopædias; is professor at two or three colleges; visiting physician or consulting surgeon to three hospitals; attends three or four dispensaries—seeing plenty of 'material;' drives a coupé and two horses; lives in a palace.

"If you should happen to have no patients, do not let that trifle disturb you in the race for fame. Get some poor monkey by the tail and perform some 'experiment' on him; look up the 'bibliography' of the monkey; copy into your monograph what other men did with monkeys; put their monkeys and your monkey together, and that will make quite a respectable article; the article will be still larger and more imposing if you copy out several 'experiments' performed in London and Paris; but put your own name at the head of the whole thing (all the monkeys)."

New York.—It is strange that a city built in such an eligible location, with rivers on either side, and Long Island Sound just above and the Atlantic below, with the Palisades and highlands of New Jersey within sight, should be one of the unhealthiest cities in the civilized world. The death rate here, in 1882, however, shows that this is the case. It averaged for the year 29.64 to a thousand. The death rate of London, with three times the population of New York and not so favorably located, was only 21.29. Paris has a million more people than New York, but its death rate is lower; last year it was 26.27 in a thousand. Berlin, which is smaller than New York, loses 25.94 in a thousand. Even Vienna, which is one of the unhealthiest cities in Europe, lost only 29.16 out of a thousand in 1882. Some Southern towns, which are annually swept by epidemics, have a lower death rate than this city, which it certainly seems should be a place to live in rather than to die in. The subject deserves a more serious and earnest attention of the authorities than it has ever received.

Dr. Edward Miller, of Louisville, Ky., has purchased from Dr. Dudley S. Reynolds *The Medical Herald*, of Louisville, Ky. He will both edit and publish it. Dr. Miller is the son of Prof. Henry Miller, the distinguished American gynæcologist and obstetrician, so long resident in Louisville, Ky., and whose work on obstetrics is to-day not surpassed by any in the world. Dr. Edward Miller is the Professor of the Principles and Practice of Surgery in the Louisville Medical College. He is a ripe scholar, both in his own profession and in the general domain of polite literature, and,with much journalistic experience, is particularly well-fitted for the work which he has chosen. He will make the *Herald* a journal of high character, and one of the ablest and most useful periodicals in this country. His truthfulness, terseness, independence, sound judgment, and high character will be highly and generally appreciated. "He is a chip of the old block," and the old block in this case was so remarkable that a chip from it is sure to be conspicuous in the editorial pile. The *Herald* will have, and is worthy of having, a bright and enviable future. "So mote it be." Prof. W. H. Galt will aid Dr. Miller.

The Living Death.—This is the title of a pamphlet which has been sent "broadcast" over the country, but which its author, Dr. H. H. Kane, of New York City, has taken especial care to keep concealed from the physicians and medical journals of his own home. The reason for this fact is very simple; the work is one of the most disreputable that has ever been issued. It is in its scope, aims and methods, fully as despicable as any that have ever made charlatanism disgusting and offensive.

The author was once a respectable physician, and at that time wrote several books and articles which were deservedly esteemed. He also at one time had a reputable "Home" in this city, in which were treated the victims of opium, chloral, and other narcotics and stimulants. In those halcyon days, Dr. Kane received letters and testimonials which were gratifying, deserved and handsome, from very many eminent physicians in this country and in Europe. No one would suppose that a physician could sink so low and be so lost to all sense of decency, justice and propriety, as to use these testimonials in support of his present infamous traffic with the weak-minded and the credulous; but such is the fact. This pamphlet, "The Living Death," is not only filled with such testimonials, but very excellent fac-similies are given of the original personal letters and notes send to him by distinguished men. Such a course is not only despicable, but it is base and dishonest. Dr. Kane offers in his pamphlet to sell the receipts for a combination of drugs which he has the effrontery to say that he has "discovered." His prices are simply those which are charged by most swindlers in the "secret medicine" business, and are several thousand per cent.

in excess of the cost of the materials. The transaction is as disreputable commercially as it is professionally, and stamps the representative of it as one who should be denounced by all respectable physicians, and even by all reputable men.

It is very unpleasant to write thus of one who was respected, but the duties of the journalist must be performed, however disagreeable their performance may be to the physician. "The Living Death" is a transparent swindle.

Hospital at Mobile, Alabama.—It appears that the Faculty of the Mobile Medical College have control of this hospital. They have addressed a circular to the profession—but which goes, of course, to the people—in which they offer to treat gratuitously all kinds of general and special diseases. This is, of course, in spirit, if not in act, a violation of the Code of Ethics, but as the same course is adopted by almost every medical college faculty, it is difficult to see how the abuse can be checked and the representatives of it held to a just and proper accountability to the profession. There can be no question as to the unavoidable results of such a course; firstly, what physicians, as organized bodies, are now culpably doing with perfect impunity will be soon done by individuals also; and secondly, as this great abuse of gratuitous services given to the public is more general and more diffused, so will paid service become less and less, and the profession be grievously impoverished. In Philadelphia 20 per cent. of the professional work done is given without charge to the public, and so much money is withdrawn from the profession. It is a very great growing and dangerous evil. Medical societies must deal with it, and deal with it promptly and fully.

It has been many years since the poor classes of the people in cities and towns received gratuitously all professional work done for them. In recent years, both in American and European cities, the better classes financially, those abundantly able to pay for medical services, have not scrupled to present themselves at the out-door departments of hospitals, and to dispensaries, and there receive the best professional services, without rendering for them the smallest pecuniary return. This stupendous evil, which the profession publicly abets, is steadily increasing. The day is not distant, cannot be distant, when pecuniary reward, made for professional service rendered, will come solely from the wealthy class. This class is, in every community, not only small in numbers, thus contracting the medical field, but it is one which employs only the older and more prominent physicians, leaving those of middle life, and those still younger, without any field whatever from which to draw their support. As a result, it is evident that the younger physicians, and those even of maturer years, are slowly having their throats cut by those members of the profession who, in colleges, hospitals and dispensaries, are giving to the public the best medical service without fee or reward. This is no ideal picture. It is a great fact, a stupendous danger, and an overshadowing evil.

Is nothing to be done to stay this evil, or is the profession to be continually rendered more helpless and hopeless by those who style themselves *medical brethren?*

The remedy is very simple; so simple, indeed, that it is marvellous that it is not in operation. It is to have a clinical blank which every one must sign, or have responsibly signed, before medical aid can be rendered. This blank, when filled out and signed, is simply a statement from the recipient of charity service that he or she is unable, in whole or in part, to pay for the medical services rendered. This blank should be filed and be made a part of the records of the institution, and open for inspection to any reputable physician.

Some, of course, would falsify and sign such blanks disreputably, but the great mass of those who are able to pay for medical service would decline doing so, and become once more a portion of the paying clientelle of the profession.

Medical societies should, by resolution, or by any appropriate legislation, require their members, if on hospital or dispensary duty, to exact such a statement from all to whom gratuitous medical service is rendered.

This will terminate this growing nuisance and dangerous evil.

THE HOT WATER TREATMENT.—The excellent paper of Dr. Ephraim Cutter, on "the Salisbury plan" of treating diseases, by the ingestion of hot water systematically, as first published in this JOURNAL in June, 1883, has been very generally published by the American exchanges, by many English journals, and has been translated into French, Italian, and German, appearing in the periodicals of those countries. This is certainly a great and deserved compliment to Dr. Cutter, and a proper tribute to Dr. Salisbury, with whom the plan originated.

PIG TALES.—A correspondent in the London *Standard* says: "A sow belonging to Mr. James Laird, of Rickling, Essex, has existed 133 days without food or water. This being so unprecedented I have gone fully into the details of the case, and can vouch for their truth. I live within a few miles of the spot, and have known the owner for many years, whose testimony, and that of his men, has been substantiated by (among others) Mr. John E. Morris, a well-known surgeon, of Bishop Stortford, who saw the animal a day or two after she was found. The facts are briefly these: A barnful of barley was commenced to be thrashed on the 8th of March last. When the straw was being stacked in the stock-yard, and was about a yard high, a violent storm came on, and work was left for the night. The sow, expecting daily to farrow, crept into the centre of the stack. Next morning several inches of snow covered the straw, and the men, standing on the ground, forked a great quantity on to the stack from the ends and sides without treading in the centre. Thus the pig was left undisturbed in her extemporized bed. The dimensions of the stack when completed were 18 feet wide, 36 feet long, and 14 feet high. The hole the pig occupied was as nearly as possible in the centre. She was not found till the straw was removed on the 19th July, just 19 weeks after her first incarceration. A more emaciated creature it would be impossible to imagine. She was full of flesh when she was lost, but when first discovered her bones were barely covered by skin. She had a large sore on the side she was lying on. She is not yet able to stand, though gradually gaining strength, and it will be long ere she resumes her normal condition. All traces of the litter of pigs had disappeared. This is the longest instance known of an animal being without food or water and an insufficient supply of air."

This pig tale reminds one very strongly of the story told of Magendie. This brilliant physiologist, but simple and unsuspecting man, being seized with the determination to learn how long an animal could do without food or water, selected two healthy pigs, and having placed them in a room, without windows and but one door, he locked them up, and kept the key. Daily he made them a visit, and while he always gave to one pig a liberal enema of rice gruel and syrup, he gave nothing whatever to the other. This course of treatment was continued for ten days, when much to the astonishment of the physiologist, who weighed his pigs daily, he found that the animal which was fed was losing weight fearfully, while the pig which he was starving was becoming very fat.

Being sorely puzzled at these astonishing phenomena, so wholly beyond his reasonable anticipations and comprehension, he determined at once to investigate the matter. Having an aperture cut through the door, and this aperture covered with a pane of glass, he, after his next visit, locked the door and went to his new window to watch all that might occur. He had scarcely reached his ingenious post of observation, when he discovered that the enema was soon and completely discharged, and that the fat pig, being on the watch for this usual occurrence, possessed himself of the whole mass before the discharging pig could "about face" and secure a portion of the treasure. And so the savant had the secret elucidated, and he learned why the "fed" pig starved, and the "starved" pig became fat!

What became of the litter of pigs in the pig tale given by the London Standard?

"AY, SPRINGES TO CATCH WOODCOCKS," as Polonius cries to Ophelia. In times past, many editors discussed the propriety of receiving, even as presents, books sent for review; it being claimed that a gift influenced fair criticism. Custom, however, has decided the matter, and books for review are now received without fee or reward. There has recently been a very conspicuous step, not forward, but backward, in this connection. It is that jorunals receive advertisements of books sent for review, and are paid for these advertisements; the reviews are to be given without any additional payment.

In looking over "the exchanges," one is impressed with the number of laudatory reviews of Cathell's work, "The Physician Himself," and, by a marvellous coincidence, such journals carry an advertisement of the book. In a very unfavorable notice of it in this JOURNAL, it was stated that "the author manifested a marvellous knowledge of human nature," and that statement seems to be very conspicuously true. It may be that an editor may publish a very caustic or unfavorable review of a work, for the advertising of which he is paid; but this question must be left as an abstract speculation, for so far there is no single proof of the fact.

All of the journals which are paid to advertise Cathell's work carry most laudatory reviews of it—"springes to catch woodcocks"—and the number caught shows that the birds are marvellously easily captured.

NURSED OR BOTTLE FED.—Every physician, of course, knows that there is a great difference in the mortality of nursed and bottle-fed infants, but never perhaps before has this fact been so fearfully illustrated as in the following records from the Infants' Hospital, Randall's Island, N. Y. The causes of death were:

	Wet nursed.	Bottle fed.
Bronchitis	2	7
Bright's disease	1	2
Cancrum oris	—	2
Cerebral congestion	1	1
Cholera infantum	1	5
Croup	1	1
Dentition	—	3
Diarrhœa, chronic	—	1
Diphtheria	2	5
Enteritis	—	2
Entero-colitis	5	58
Inanition	6	159
Laryngitis	1	—
Marasmus	—	2
Meningitis, spinal	—	2
Meningitis, simple	1	—
Meningitis, tubercular	1	—
Pertussis	—	2
Pernicious remittent fever	—	1
Phthisis	3	4
Pneumonia	11	28
Premature birth	1	—
Purpura hæmorrhagica	2	—
Syphilis congenital	5	15
Total	44	300

OLEATES.—Parke, Davis & Co., have prepared the oleates of mercury, arsenic, lead, zinc, silver, bismuth, iron, copper and aluminium, and are liberal with gratuitous samples to all physicians who wish to make a clinical trial of any of them. The oleate of mercury has been in use for several years, but the oleate of copper for freckles, and the other oleates in diseases of the skin, as recommended by J. V. Shoemaker, M.D., of Philadelphia, are new, and are acceptable on account of their rapid absorption and consequent cleanliness.

CAUGHT NAPPING.—An advertisement has appeared in several journals, announcing that Dr. Kane had *discovered a combination of remedies* for the cure of the opium habit, &c., the ingredients not being given. Dr. Kane has abandoned the path of honor and professional rectitude, and is not now recognized as a regular member of the profession. The journals are now apologizing for inserting his advertisement. Room for the penitents!

DR. J. LAWRENCE SMITH, of Louisville, Ky. (but a native of Charleston, S. C.), whose death was announced in the November number, was a distinguished man. He was an ex-President of the American Association for the Advancement of Science, a member of the American National Academy of Sciences; of the Boston Society of Natural History; of the American Academy of Arts and Sciences; of the American Philosophical Society; of the American Bureau of Mines; of the Chemical Society of Berlin; of the Chemical Society of Paris; of the Chemical Society of London; of the Société d'Encouragement pour l'Industrie Nationale; of the Imperial Mineralogical Society of St. Petersburg; and the Société des Sciences et des Arts de Hainault. He was a Chevalier of the Legion of Honor, and of the Imperial Order of St. Stanislaus. He was a member of the Order of Medjidiah, and of the Order of Nichau Iftahar, of Turkey.

A SPURIOUS BOOK.—Judge Mitchell, of Philadelphia, has granted a preliminary injunction restraining Samuel M. Miller, M.D., from continuing the publication of a book which he is issuing under the title, "An Epitome of Medicine, Surgery, and Obstetrics, including Nervous Diseases and the Diseases of Women and Children, by Alfred Stillé, Professor of the Theory and Practice of Medicine in the University of Pennsylvania, Dr. Hayes Aguew, Professor of Surgery and Clinical Surgery, and R. A. F. Penrose, Professor of Obstetrics." According to the Philadelphia *Press*, Professor Stillé and Professor Agnew, upon whose petitions, supported by affidavits, the injunction was issued, declared that this publication is "without" their authority, and consists only of an incomplete and careless rehash of the oral lectures which they have been delivering to the students at the University, to which the publisher has contributed nothing but the summaries and the errors. They further allege that the publication is calculated to injure them, both professionally and financially.

It is a matter of surprise that so many medical journals advertized this spurious work. The "copy" and the check in advance sent to this journal were at once returned.

RARE CHANCE.—One of the great London, England, weekly medical journals and GAILLARD'S MEDICAL JOURNAL sent for one year, postage on both paid, for only nine dollars ($9). The London *Medical Times and Gazette*, enlarged in size (32 pages weekly), is the only journal sent with this journal. Commencing with the number for January 5th, 1884, the old London *Medical Times and Gazette* will undergo an alteration in the size of page that will make it much more convenient for handling and binding. A clearer type, better accommodated to the eye, will be employed, an increase in the number of pages will be made, thus increasing the amount of reading matter. The contents will be printed on the first page of reading matter, enabling them to be bound up with the volume, and a reduction in the price, of one-half, will make it the cheapest weekly medical paper now published.

PHOSPHORUS AS A REMEDY

FOR LOSS OF NERVE POWER, NEURALGIA, HYSTERIA, AND OTHER CONDITIONS OF THE CEREBRO-SPINAL SYSTEM AS INDUCED BY OVERWORK AND OTHER INFLUENCES INCIDENTAL TO MODERN LIFE.

FOR PHYSICIANS' PRESCRIPTIONS THE ONLY FORM IN WHICH IT SHOULD BE ADMINISTERED.

PIL. PHOSPHORI CUM FERRO COMP.
(WARNER & CO.)

℞ Pure Unoxidized Phosphorus, 1-50 gr.
Strychnine, - - - 1-60 gr.
Reduced Iron, - - - 1½ grs. ♏ ft. Pil No. i.

THERAPEUTICS. PHOSPHORUS has recently been prescribed with great advantage in cases of extreme debility and mental depression, from prolonged anxiety, or excessive excitement; also, in nervous prostration from overwork, especially brain-work. It is recommended in cases which are attended with great prostration of the vital powers; in exhausting diseases, such as Cholera, Diphtheria, and the latter stages of Typhus and other Fevers, etc. In Epilepsy, Epileptiform-Vertigo, Melancholia, Softening and some other diseases of the Brain, it has been given with marked benefit; also in Neuralgia, Tuberculosis, and Scrofula, in chronic and inveterate diseases of the skin, Leprosy, Lupus, and Psoriasis. Dr. Burgess recommends it in Pruritus Pudendi and other forms of Pruritus.

PHOSPHORUS, STRYCHNINE, AND IRON, combined in the proportions above indicated, is a safe and valuable remedy. As a nutritive tonic and stimulant to the nervous system, especially the spinal cord, it is admirably adapted for the treatment of a large number of nervous disorders dependant on defective nutrition and debility. It increases the appetite and promotes digestion. It may be safely given in all those cases in which hypophosphites are employed. It is strongly recommended in *Consumption*, *Neuralgia*, *Atonic Dyspepsia*, *Lowness of Spirits*, *General Debility*, and in that general condition of depression and loss of power popularly known as *below par*, and in *breakdown* from overwork and mental fatigue

DIRECTIONS: Take one Pill, with breakfast, dinner and tea every day, until 100 pills have been taken, when it would be advisable to leave off taking the Pills for a week, and then resume them every second day. Should digestive troubles intervene, suspend their use for a few days or give less frequently.

THE PILULAR FORM is deemed to be the most desirable for the administration of Phosphorus. In Warner & Co.'s pills the Phosphorus is in a perfect state of subdivision, and is not oxidized. *Warner & Co discovered and brought to perfection this method of preparing Phosphorus for medicinal use.* It is presented in its *elementary state*, free from those repulsive qualities which have so long militated against the use of this potent and valuable remedy. These pills possess the necessary qualities of purity and definite strength, are small in bulk, and are perfectly tasteless.

SUGGESTIONS AS TO REGIMEN: To sum up the general principles of the employment of Phosphorus as a nerve tonic, for which it is recommended, the special treatment indicated is:

1st. Complete rest of mind; especially, abstention from all occupations resembling that upon which the mind has been overworked.

2d. The encouragement of any new hobby or study, not in itself painful, which the patient might select.

3d. Tranquility to the senses, which expressly give in these cases incorrect impressions, putting only those objects before them calculated to soothe the mind.

4th. A very nourishing diet, especially of shell-fish.

5th. The internal administration of Pil: Phosphori cum Ferro Comp. as prepared by WM. R. WARNER & Co.

SPECIAL NOTE: Pil. Phosphori cum Ferro Comp. are sold in bottles containing 100 pills, the coating of which is coloured a delicate pink, to establish their identity. Physicians when prescribin[illegible]ould do well to order in bottles of 100 and specify Warner & Co.

WM. R. WARNER & CO.

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Lists of Phosphorus combinations sent on request, showing twenty-eight formulæ.

TO THE MEDICAL PROFESSION.

LACTOPEPTINE

DEMONSTRATED SUPERIORITY OF LACTOPEPTINE AS A DIGESTIVE AGENT.

Certificate of Composition and Properties of Lactopeptine by Prof. ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Prof. of Practical Chem. to the Pharmaceutical Society of Great Britain.

LONDON, May 8, 1882.

Lactopeptine having been prescribed for some of my friends during the past five years—apparently with very satisfactory results—its formula, which is stated on the bottles, and its general characters, have become well known to me. But recently, the manufacturer of this article has asked me to witness its preparation on a large scale, to take samples of its ingredients from large bulks and examine them, and also mix them myself, and to prepare *Lactopeptine* from ingredients made under my own direction, doing all this with the object of certifying that *Lactopeptine* is what its maker professes it to be, and that its ingredients are in quality the best that can be obtained. This I have done and I now report that the almost inodorous and tasteless pulverulent substance termed *Lactopeptine* is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, *Lactopeptine* is a skillfully prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of acids that are always present in the healthy stomach; all begin to be disseminated in an appropriate vehicle, namely, powdered sugar of milk. To acids used at the factory—lactic and hydrochloric—are the best to be met with and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase" or starch-digesting (bread-, potato-, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredients, are as good as any I can prepare; while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards the chief ingredient, pepsin, I have only met with one European or American specimen equal to that made and used by the manufacturer of *Lactopeptine.* A perfectly parallel series of experiments showed that any given weight of acidified pepsin, alone at first acts somewhat more rapidly than *Lactopeptine* containing the same weight of the same pepsin. Sooner or later, however, the action of the *Lactopeptine* overtakes and outstrips that of pepsin alone, due, no doubt to the meat-digesting as well as the fat-digesting powder of the pancreatin contained in the *Lactopeptine.* My conclusion is that *Lactopeptine* is a most valuable digesting agent, and superior to pepsin alone.

JOHN ATTFIELD.

LACTOPEPTINE contains all the agents of digestion that act upon food, from mastication to its conversion into chyle, thus combining all the principles required to promote a Healthy Digestion.

One of its chief features (and the one which has gained it a preference over all digestive preparations) is, that it precisely represents in composition the natural digestive juices of the stomach, pancreas and salivary glands and will therefore readily dissolve all foods necessary to the recuperation of the human organism.

FORMULA OF LACTOPEPTINE.

Sugar of Milk	40 ounces.	Veg. Ptyalin or Diastase	4 drachms.
Pepsin	8 ounces.	Lactic Acid	5 fl. drachms.
Pancreatine	6 ounces.	Hydrochloric Acid	5 fl. drachms.

LACTOPEPTINE is sold entirely by Physicians' Prescriptions, and its almost universal adoption by physicians is the strongest guarantee we can give that its therapeutic value has been most thoroughly established.

The undersigned having tested LACTOPEPTINE, recommend it to the profession.

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PROF. JOHN ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., London, England, Prof. of Practical Chemistry to the Pharmaceutical Society of Great Britain.

For further particulars concerning Lactopeptine, the attention of the profession is respectfully directed to our 32 page Pamphlet, which will be sent on application.

THE NEW YORK PHARMACAL ASSOCIATION,

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